CalPHIN

People • Process • Technology

California

Public Health

Information Network

Volume II
Strategic Plan

**June
2003**

Preface

The Department of Health Services, Division of Communicable Disease Control (DCDC) contracted with Synergy Consulting, Inc. to facilitate development of a Strategic Plan to incorporate the Centers for Disease Control and Prevention's (CDC) National Electronic Disease Surveillance System (NEDSS) standards into the State's public health systems. The DCDC, disease surveillance programs, local health departments, and other public health stakeholders collaborated to develop the strategic plan.

During development of this Plan, the CDC expanded the scope of its NEDSS effort to define a "network" of activities that supports public health surveillance. This expanded initiative is currently known as the Public Health Information Network (PHIN). California's initiative is referred to as the California Public Health Information Network (CalPHIN) Strategic Plan. This gives California a "name brand" that aligns with CDC efforts, incorporates the technical advantages of NEDSS, and includes the expanded value of a common business perspective for disease surveillance.

The CalPHIN Strategic Plan focuses on the people involved in collecting and using the relevant public health information, the business processes that support disease surveillance in the State, and the technology to enable efficient collection and processing of information. The result of the planning effort is presented in four documents.

> Executive Summary: Summarizes the information contained in the three detailed volumes of the Plan.
>
> Volume I Current Environment: Provides an overview of the current technical information systems that support disease surveillance throughout the State. Volume I describes the systems and assesses their compliance with the NEDSS standards.
>
> Volume II Strategic Plan: Identifies current business and technical challenges facing the State's public health system. This document presents a strategic vision along with a detailed discussion of the goals, objectives, and strategies to migrate the current environment to one that incorporates NEDSS standards and positions public health activities for continued success.
>
> Volume III Implementation Plan: Presents a "road map" for implementing the CalPHIN vision. The Implementation Plan presents prioritized strategies, a plan for early success of CalPHIN, and a foundation for future systems to support disease surveillance and other public health management functions.

Message from DCDC

I am pleased to present the California Public Health Information Network (CalPHIN) Strategic Plan for 2003. This long-term Plan is an integral part of our commitment to protect and improve the health of all Californians. Increasingly, the California Department of Health Services (Department) looks to technology for contributions to solutions for the tough public health challenges facing our State. Information technology, such as the Internet, holds great promise for improving California's public health system as it carries out its mission. In addition, our technology infrastructure and core data are immensely valuable assets that must be well managed to facilitate working relationships with our public health partners. This Strategic Plan presents specific, business-driven goals, objectives, and strategies that we can pursue to leverage technology and data in every way possible to better serve California's public health.

Recent events make this Plan both timely and urgent. These events have dramatically underscored the importance of an effective, comprehensive public health information network that links key information with decision-makers in a timely manner. Business as usual is not acceptable. For this reason, this Strategic Plan provides an essential road map for the CalPHIN initiative in making the right business and technology choices over the next several years. Ultimately, as we proceed in enhancing our public health system and bioterrorism preparedness and response activities, I believe this Plan will help position us to leverage the power of technology more fully to accomplish the CalPHIN vision and support the Department's mission.

The foundational elements of this Strategic Plan include CalPHIN's vision, strategic goals, objectives, and strategies. These elements align with the Department's mission, vision, and key issues, the Division of Communicable Disease Control's major activities, and the Centers for Disease Control and Prevention's Public Health Information Network requirements. Along with key stakeholder input, they serve as the foundation for the CalPHIN initiative's six strategic goals: Leadership, Standards, Collaboration, Enabling Technology, Security/Confidentiality, and Project Success.

Many people contributed to the development of this Plan. We had participation from various DHS organizations, local health departments, and other agencies and departments throughout the State that are a critical part of improving public health. I thank each of you for your contributions of time, effort, and insight. Individually and collectively, you have helped to make the Plan a sound and credible guide for the CalPHIN initiative. By committing to the Plan's goals and strategies, I am confident the CalPHIN effort will effectively utilize collaborative efforts, streamlined processes, and technology to maintain and support the State's public health system for future generations. I look forward to joining with you as we work toward implementing the elements of this Strategic Plan.

_____   _____
Mark Starr, DVM, MPVM, Dipl. ACVPM   (Date)
Acting Chief

Table of Contents

INTRODUCTION

Public Health in California

Public health is practiced by a variety of local, State, and Federal organizations that are further divided into organizational units around clinical, health department, laboratory, disease program, and other operational divisions.[1] California's public health system includes a network of people, information systems, organizations, and public health processes focused on the health of the population. The Department of Health Services (DHS) administers the public health system in California at the state-level. Sixty-one local health departments (LHD) -- comprising the 58 counties and the cities of Berkeley, Long Beach, and Pasadena -- manage the public health system at the local level.

The data systems that support public health efforts in California were developed in response to specific high priority data needs for individual public health programs. The development and evolution of these program-specific data systems has resulted in silos of information, duplications of effort, and critical information gaps; in addition, it has made it difficult for public health agencies to link systems and exchange critical data.

Public health professionals, policymakers, State and Local health officers, and other public health partners recognize that timely access to relevant, reliable information would greatly improve California's ability to address population health concerns. The complexities inherent in the interaction between public health stakeholders requires coordination of business processes, information sharing, and the enabling technology to better meet the day-to-day activities of disease management and control, as well as event detection and bioterrorism preparedness and response activities.

> **"The foundation of California's public health system is timely, high quality data and information for protecting and improving public health."**

Need for Integrated Public Health Information Systems

More than ever before, integrated information systems and coordinated approaches are needed to fulfill the data and information needs of California's public health system. Access to timely, high-quality information about disease occurrences, abnormal patterns of disease, co-morbidity trends, and other public health events would significantly improve the Department's ability to administer and manage the public health of Californians.
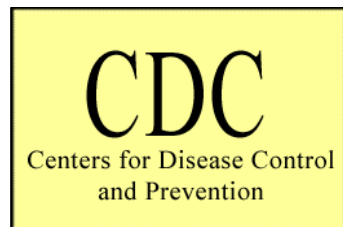
At the national level, the Centers for Disease Control and Prevention (CDC) has undertaken initiatives to integrate diverse public health systems, connect information systems, and use and promote national data and systems standards. Through the Public Health Information Network (PHIN), the National Electronic Disease Surveillance System (NEDSS), and other initiatives, the CDC

---

[1] Centers for Disease Control and Prevention. "Notice of Cooperative Agreement Award, Public Health Information Technology Functions and Specifications." February 8, 2002.

describes specific public health and bioterrorism functions and standards to implement a coordinated public health system.

California is in the process of reviewing its disease surveillance infrastructure and is committed to adopting the CDC's PHIN and NEDSS standards. In 2001, as an initial step towards compliance with the CDC's NEDSS Systems Architecture[2], the Department assessed several State-level information systems to determine their degree of compliance with the eight NEDSS technical architecture elements.

As a next step, the Department engaged Synergy Consulting, Inc. (Synergy) to develop this Strategic Plan. The Plan provides a roadmap that will guide the State as it develops and enhances a public health information network built upon the NEDSS architecture. The network will enable California to collect and manage disease surveillance data from various public health programs in a manner that promotes consistency, reliability, timeliness, and accessibility. This initiative in California parallels the efforts of the CDC at the federal level.

The Strategic Plan presents an ambitious, multi-year agenda to implement the California Public Health Information Network (CalPHIN) initiative across California's public health system. The Plan is business-driven and reflects the input of more than 60 senior business and technology managers from the State DHS and other public health agencies. In addition, the CalPHIN Strategic Plan explicitly supports the Department's mission and strategic goals as set forth in the *Strategic Plan for the California Department of Health Services March 2002* report. The successful implementation of the Plan will require the commitment and cooperation of business and technology managers from public health agencies throughout the State, including the Programs, Divisions, Branches, and Offices of DHS and the 61 LHDs.

The guiding philosophy of the Strategic Plan is that the Department's investment in, and use of, technology must be driven by a clear sense of the business results to be achieved, the capabilities of technology itself, and an awareness of the constraints and opportunities of the business and political environment. This Plan encompasses a wide spectrum of opportunities to implement systematic solutions that meet California's public health needs. The Plan addresses the following areas for success:

- Establishing leadership to oversee and guide the development, evaluation, and implementation of public health information initiatives
- Developing and enforcing optimal technology standards and policies
- Implementing reliable, effective, and efficient information technology solutions
- Developing and managing systems collaboratively
- Providing a secure environment for public health information
- Delivering projects on time and within budget

Strategic Planning Approach

To develop the Strategic Plan, the Division of Communicable Disease Control (DCDC) engaged Synergy to lead the effort. A CalPHIN Strategic Plan Steering Committee provided overall guidance in the planning effort.

---

[2] Refer to http://www.cdc.gov/nedss/NedssArchitecture/NEDSSsysarch2.0.pdf for the detailed specifications of the NEDSS Systems Architecture.

The planning process included a review of current systems that support disease surveillance (results presented in Volume 1: Current Environment) and detailed interviews with more than 60 senior public health business and technology managers. During these interviews, the Synergy project team gained a broad understanding of the Department's current and future business environment, the short and long-term business objectives, and key technology-related and business challenges. Based on the information and perspective gained from these interviews, the project team developed a "CalPHIN Vision," a set of 6 Strategic Goals, 22 specific Objectives, and supporting Strategies.

The development of the Strategic Plan progressed as diagramed in Figure 1.
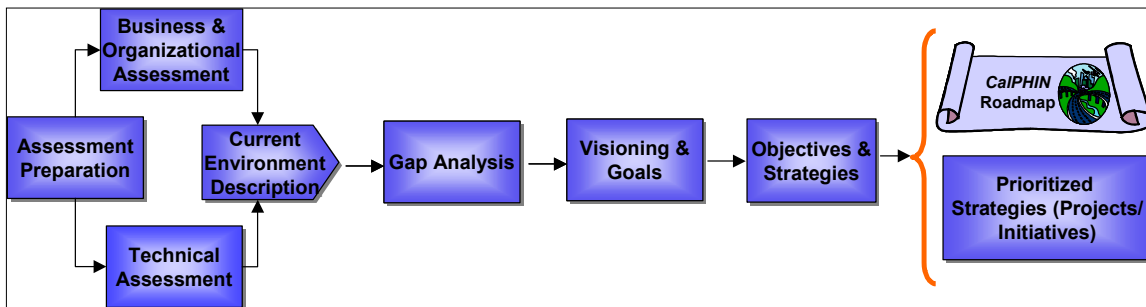
Figure 1. Strategic Plan Approach

Structure of the Strategic Plan

The Strategic Plan defines a vision, a brief description of the ideal future, and six strategic goals for CalPHIN to be successful in addressing major challenges facing the State's public health system. The Plan also includes objectives associated with each strategic goal that are broad statements of intent that describe the end toward which public health information network efforts will be directed.

The description of each strategic goal also includes a discussion of potential *outcomes* – defined as actual results achieved and specific benefits for stakeholders – and *performance measures* – which provide a measure of discipline in evaluating the relevance and contribution of strategic goals to the overall vision and ensure accountability by creating objective measures of success.
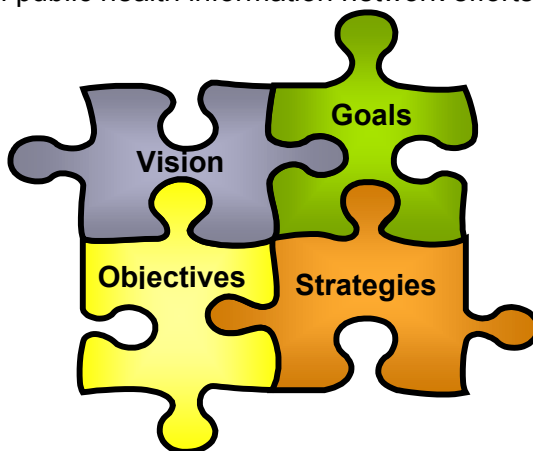
Additionally, specific strategies were developed that describe actionable plans to accomplish these objectives, and subsequently, the strategic goals. The development of this Strategic Plan was a disciplined effort, adhering to a comprehensive and structured methodology, to produce fundamental decisions and actions that will shape the future of California's public health system.

The Strategic Plan begins with a description of the CalPHIN initiative. This is followed by a discussion of California's current public health environment, including key issues and concerns. The remainder of the document presents the CalPHIN vision, goals, objectives, and strategies to achieve the six goals.

WHAT IS CALPHIN?

The CalPHIN is the State's initiative to develop and implement an integrated and comprehensive public health information network. The DCDC within DHS, in collaboration with local health departments and public health partners, is leading the CalPHIN initiative. The initiative itself will have a number of significant benefits, including the following:

- Improve the ability of public health programs to track the health of California's citizens
- Enhance the efficiency of public health professionals
- Improve the ability of public health professionals and agencies to make well-informed decisions
- Enable public health partners to effectively communicate and share information with each other

In general, successful implementation of the CalPHIN initiative will enhance the ability of the State's public health practitioners to share critical public health data and information across the public health system as a part of their day-to-day activities, at key decision points, and during emergencies. The CalPHIN effort encourages building upon existing capabilities while minimizing additional organizational structures and bureaucracy. The CalPHIN initiative starts with a focus on communicable disease management while maintaining a sense of the broader need to facilitate information-sharing and enable all public health programs and jurisdictions to access critical information.

CalPHIN is More than a One-time Technology Project

CalPHIN is not simply a one-time technology system development project. Rather, CalPHIN must be understood far more broadly, as a dynamic and multifaceted initiative for change in the management and administration of public health programs in California. In short, it is an integral part of the ongoing evolution of public health business practices across the United States. CalPHIN comprises technology, governance, and business process components, as depicted in the following figure.

> **"Technology is not an end unto itself.** Technology supports the overall mission, or business, of government operations, and is a tool to increase capacity and create efficiencies, with the ultimate goal of providing more effective and convenient services to customers. Technology is not a separate discipline—there are no "technology projects." Technology is an enabler and a component of "business" initiatives." State of Virginia, Secretary of Technology
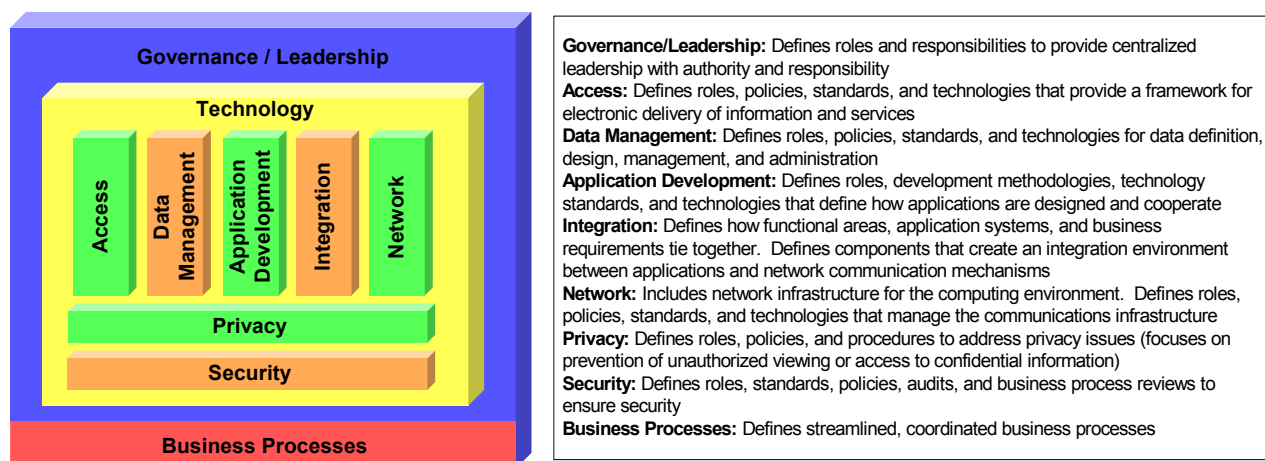
Governance/Leadership: Defines roles and responsibilities to provide centralized leadership with authority and responsibility
Access: Defines roles, policies, standards, and technologies that provide a framework for electronic delivery of information and services
Data Management: Defines roles, policies, standards, and technologies for data definition, design, management, and administration
Application Development: Defines roles, development methodologies, technology standards, and technologies that define how applications are designed and cooperate
Integration: Defines how functional areas, application systems, and business requirements tie together. Defines components that create an integration environment between applications and network communication mechanisms
Network: Includes network infrastructure for the computing environment. Defines roles, policies, standards, and technologies that manage the communications infrastructure
Privacy: Defines roles, policies, and procedures to address privacy issues (focuses on prevention of unauthorized viewing or access to confidential information)
Security: Defines roles, standards, policies, audits, and business process reviews to ensure security
Business Processes: Defines streamlined, coordinated business processes

Figure 2. CalPHIN Components

Together, the components of the CalPHIN initiative will promote effective communication, enable the coordination of IT development efforts, support the integration of relevant public health information systems, and facilitate electronic sharing of critical data at key decision points. The CalPHIN initiative seeks to increase the likelihood that key decision-makers have access to the best possible disease surveillance and public health information for both day-to-day operational activities and at critical points in time. This means that the information will be current, accurate, appropriate, secure, and complete. This provides public health decision-makers with quality information needed to provide services that protect and improve the health and quality of life of all Californians.

The technological components of the CalPHIN initiative build upon industry data and system standards as well as on the CDC's ongoing NEDSS and PHIN efforts[3]. The figure on the following page depicts at a high, conceptual level, the technical aspects of the CalPHIN initiative.

---

[3] Refer to http://www.cdc.gov for additional information on the CDC's NEDSS, PHIN, and other initiatives.
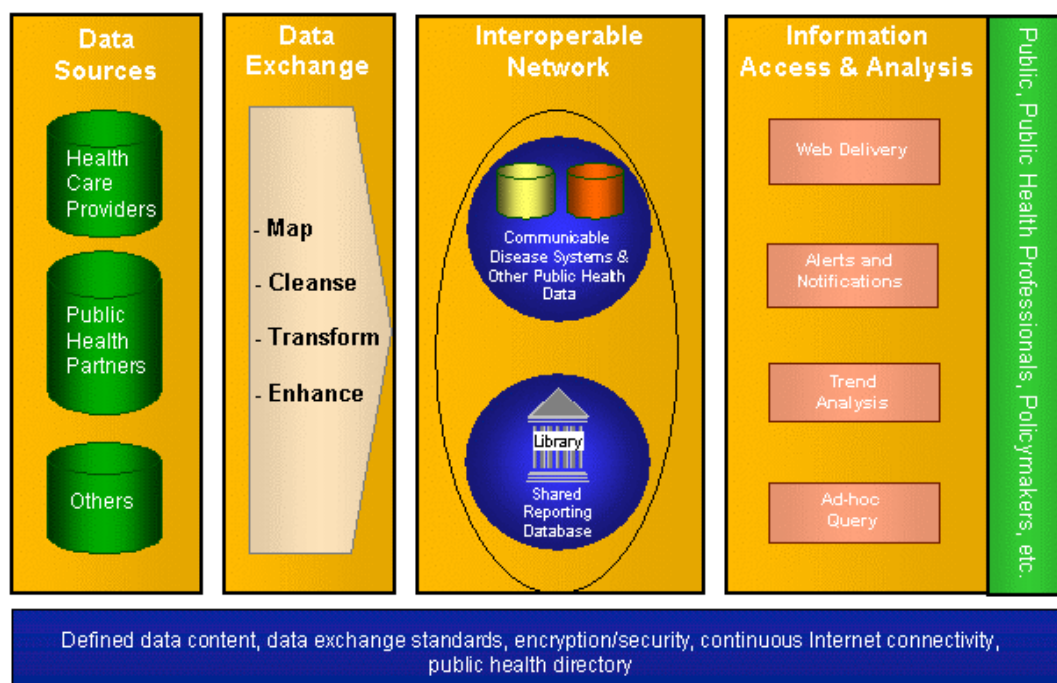
Figure 3. CalPHIN Technical Aspects

The vision for CalPHIN's supporting technology includes a variety of data sources; clear specifications and processes to exchange data; an interoperable network, including individual and integrated disease information systems; data access and visualization capabilities; and underlying data content, data exchange, and other standards, including privacy and security principles. Building a public health information network does not mean that all information will be made available to everyone. The sharing of confidential information must consider the "need to know," based on the type of information, the legality of making the information available, the programs and departments involved, and the sensitivity of the information itself.

Benefits of Implementing CalPHIN

Once implemented, CalPHIN will improve the quality, security, consistency, accessibility, and reliability of public health information and, thereby, the quality of public health officials' decisions. The CalPHIN vision will guide the development of processes and systems capable of providing consistently reliable public health data. This consistency will help to reduce or eliminate redundant data entry requirements that often result in errors and, thus will significantly improve the reliability of public health data. CalPHIN will also enable state and local public health professionals to share critical data and information at key decision points.

Specific benefits of the implementation of CalPHIN include:

- Efficient use of scarce resources
  - Reduced duplication of effort
- Improved system coordination through the adoption of common standards
  - Coordination of separate public health efforts
  - Improves cross system data exchange, data collection, and detection
  - Promotes reusability, maintainability, and portability of information system components
  - Reduces data errors
- Consistent with Federal initiatives
- Improves access to complete and accurate public health data
  - Expanded range of data for better decision-making
  - Makes accurate, meaningful information available to a variety of end users
- Develops a process that builds trust among partners and promotes information sharing
- Adds value, decreases costs, saves money, reduces death and disability from diseases

Figure 4, on the following page, illustrates the benefits of CalPHIN that will significantly improve public health decision-making as well as the efficiency of public health management and administration.

Impact of CalPHIN -- Improving California's Public Health System
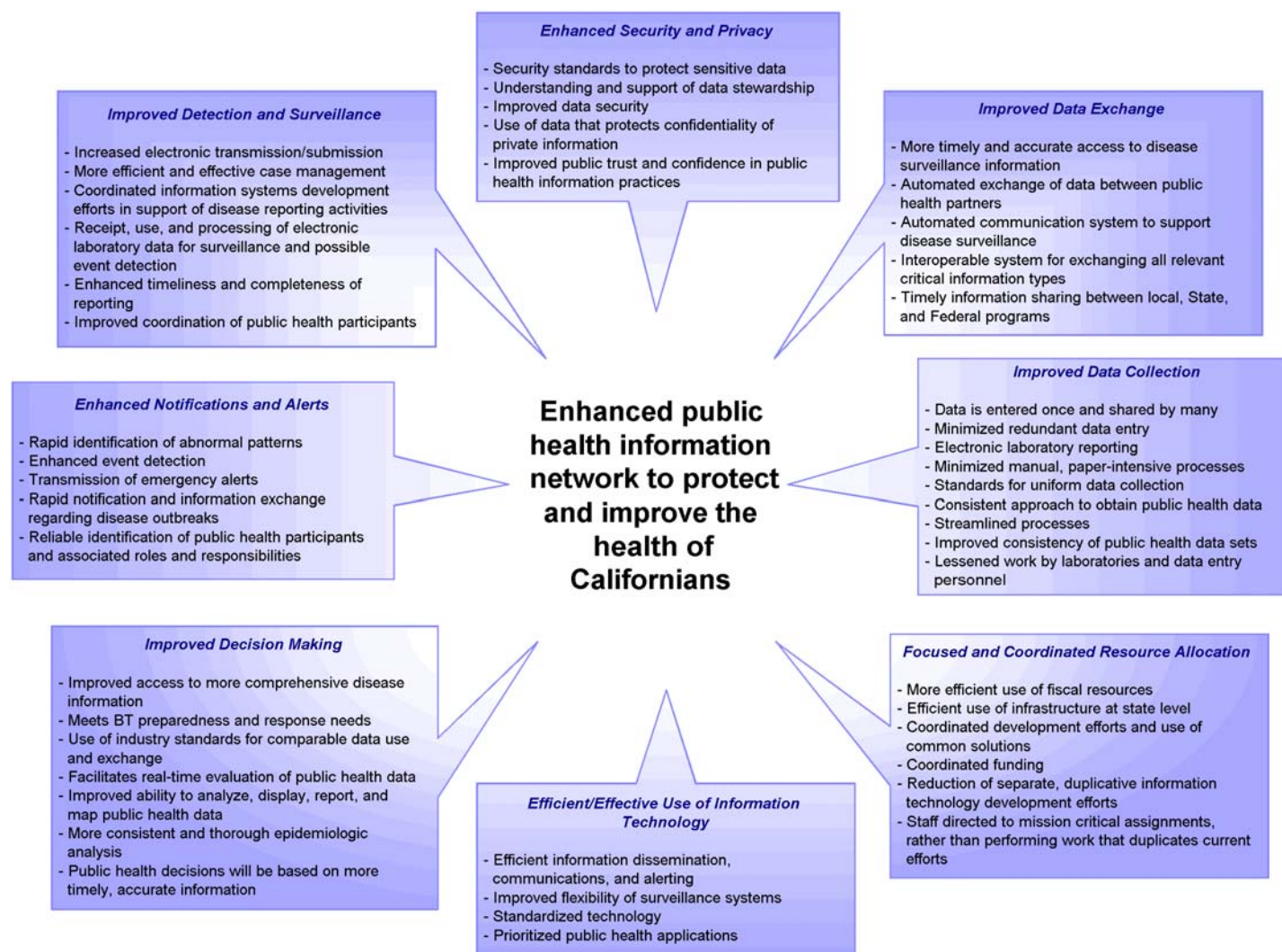

Figure 4. CalPHIN Benefits

CURRENT ENVIRONMENT

This section of the Strategic Plan presents a detailed discussion of the current public health business environment in California and the fundamental issues the CalPHIN initiative addresses. The discussion provides a context to understand the elements of the strategic plan. In addition, it identifies the critical deficiencies of the current environment that the CalPHIN initiative seeks to resolve. In short, the success of CalPHIN calls for the State to build a network of people, processes, and technology that will collectively support a public health system in California able to resolve the key challenges described in this section.

Current Environment Sets the Stage for the Future

Before charting a course toward a new future, organizations must understand where they stand today. As part of the CalPHIN Strategic Planning process, the stakeholders identified and assessed a number of current internal and external environmental challenges. This assessment provided a baseline for envisioning the future and for developing an action plan for realizing the vision. The current environment assessment was critical to the development of the strategic goals and objectives presented later in this Plan.

This following section presents the major technology and business issues and objectives facing the implementation of CalPHIN. This discussion is based on interviews with more than 60 deputy-directors, chiefs, managers, and IT and program staff from over 35 State Departments, Programs, LHDs, and Agencies.

Fundamental Public Health Challenges Facing California

As California's public health needs have changed over time, the Department's business responsibilities have changed and expanded. Today, State and local public health programs in California face daunting challenges, including emerging infectious diseases, the threat of bioterrorism, high morbidity rates linked to preventable chronic disease and injury, an aging population, and a general lack of understanding about the role of public health services.[4] Such challenges make it imperative that State and local public health programs evaluate their ability to provide both population-based and direct health care services. Since the 9/11 and anthrax terrorist attacks, Federal, State and local public health officials have worked hard to identify and implement strategies to provide such services in the event of bioterrorism attacks in the future. The recent emergence of Severe Acute Respiratory Syndrome (SARS) is another catalyst for improving the capacity of the public health system to respond to changing circumstances and conditions.

The current public health environment in California faces fiscal, political, demographic, and technological challenges. The vision and goals of the CalPHIN Strategic Plan are designed to confront these challenges. In particular, problems associated with public health data and communication systems must be resolved if the State is to effectively meet these new and changing challenges.

---

[4] California Department of Health Services, "Leadership for a Healthy California: A Strategic Plan for the California Department of Health Services." March 2002.

Over the past few years, public health surveillance by California's State and local public health programs has employed a variety of independently developed data systems. These include systems developed by the CDC (e.g., National Electronic Telecommunications Systems for Surveillance [NETSS], HIV/AIDS Surveillance Reporting System [HARS], Tuberculosis Information Management System [TIMS]), statewide systems with multiple purposes (i.e., Automated Vital Statistics System [AVSS]), and locally developed systems for specific needs. These systems were generally designed as program specific data collection and reporting tools and have limitations on their data analysis capacity. In addition, they lack the design, functional, and structural features necessary for system integration and coordination.[5]

Current Public Health System Limitations

- Data cannot be easily shared
- Fragmented data and systems
- Data are incomplete
- Absence of common standards limits sharing and coordination
- Costly duplication of effort
- Limited mechanisms to share information and resources
- Collaboration is infrequent
- Under utilization of scarce resources
- Lack of long range coordinated strategic approach

During the strategic planning process, interviews with stakeholders identified a number of significant public health issues and challenges. Figure 5 depicts a number of the themes the stakeholders discussed as they identified the issues and challenges to be addressed in the CalPHIN Strategic Plan. These themes represent areas of significant concern and interest to public health stakeholders involved in the CalPHIN initiative. Thus, the themes constitute a critical and appropriate framework upon which to build the Strategic Plan and its goals and objectives.
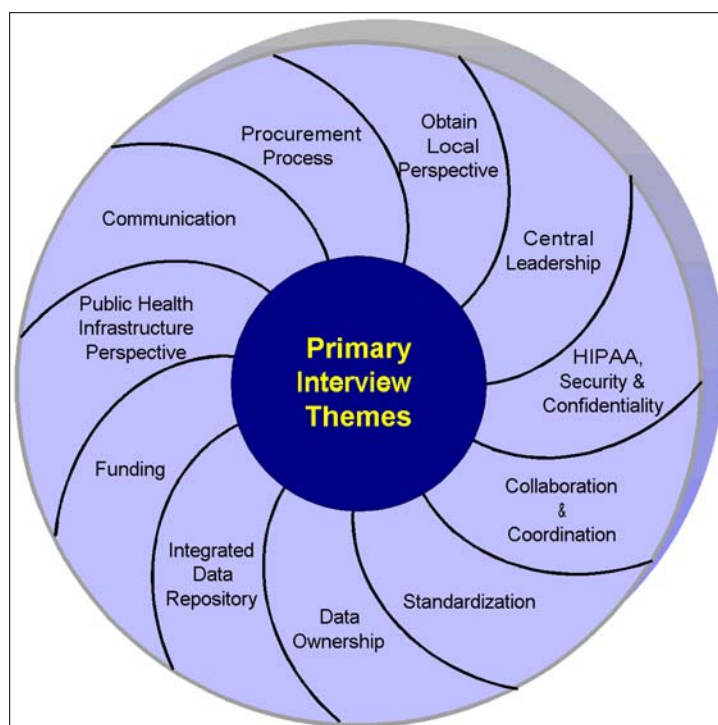

Figure 5. Key Interview Themes

---

[5] A detailed description of selected systems is provided in Volume 1, which presents a comparison of existing capabilities with the recommended NEDSS architecture. This baseline provides the basis for systems development with CalPHIN.

The remainder of this section summarizes many of the current environmental challenges that the CalPHIN Strategic Plan addresses. During the development of the Plan, senior business and technology managers, members of the CalPHIN Strategic Plan Steering Committee, and the Synergy project team identified many specific challenges facing California's public health system. The challenges are described here as either "external" or "internal," depending upon whether they relate to conditions in the larger external context of public health policy, information technology, demographics; or to the internal operation and management of public health agencies and their systems and processes. The Strategic Plan proposes ways to meet these challenges through the use of more effective technology, data management practices, governance structures, and business processes.

External Challenges

1. *INCREASING DEMAND FOR PUBLIC HEALTH DATA AND INFORMATION SYSTEMS*
   California's public health system appreciates an increasing demand for public health data and information systems to:

   - Enhance disease surveillance activities
   - Improve detection and analysis of disease patterns
   - Support disease management; bioterrorism preparedness; and response, planning, and detection activities

2. *RAPID PACE OF TECHNOLOGICAL CHANGE*
   The rapid pace of technological change presents a challenge to the Department because:

   - It is costly to keep up with the rapid pace of change
   - Public health partners are increasingly developing sophisticated information systems at a faster pace than the Department

   On a positive note, the rapid development of new IT solutions to collect, manage, and analyze medical and public health data presents an opportunity for the Department to improve the way it does business.

3. *INCREASING FOCUS ON TECHNOLOGICAL SOLUTIONS TO ADDRESS CORE PUBLIC HEALTH BUSINESS NEEDS*
   This presents a challenge to the Department because:

   - Public health partners increasingly expect the Department to make information available electronically
   - The public health community generates a growing volume of increasingly complex data that must be made accessible in a timely manner

4. *CURRENT FUNDING MECHANISMS AND BUDGET CONSTRAINTS CREATE A DIFFICULT ENVIRONMENT IN WHICH TO DEVELOP AND MAINTAIN INFORMATION SYSTEMS*
   Funding challenges include:

   - Categorical funding from multiple external sources makes it difficult to integrate and coordinate efforts across DHS programs and local jurisdictions
   - The severely constrained State and local fiscal situation makes it difficult to initiate and complete technology projects

- Separate State and local funding streams lead many local agencies to perceive State projects and initiatives as "unfunded mandates"

5. *INCREASING AWARENESS OF THE POTENTIAL FOR BIOTERRORIST EVENTS*
   Recent bioterrorism threats and events present the State of California with the following challenges:

   - California must improve its ability to detect bioterrorist events and notify appropriate authorities in timely manner
   - California must Improve its overall ability to prevent and respond to bioterrorist events

6. *INCREASING AWARENESS OF PRIVACY AND CONFIDENTIALITY ISSUES*
   As the Health Insurance Portability and Accountability Act (HIPAA) compliance dates approach and the need to maintain the confidentiality and privacy of public health data increases, the Department is increasingly aware of the following challenges:

   - HIPAA will have a significant impact on current and future public health information systems and processes
   - California must implement, maintain, communicate, and adhere to public health privacy and confidentiality standards to ensure the protection of personally identifiable information
   - The age of certain technologies and the growing amount of electronic exchange of data increases the potential for unauthorized access to public health data

   Conversely, the electronic exchange of information provides opportunities for improved security in comparison to current paper-based and manual processes.

7. *DIVERSE PERSPECTIVES ON THE USE OF – AND ACCESS TO – PRIVATE INFORMATION*
   The following groups assert varying perspectives on the use of, and access to, confidential information:

   - Department of Health Services
   - Public health programs
   - Local health departments
   - General population (including advocacy groups)

   These differing perspectives present a challenge for the development of future public health information sharing initiatives.

8. *CALIFORNIA'S CHANGING DEMOGRAPHICS*
   The following characteristics of California's population have given rise to new public health risks and require the Department to obtain improved and timely access to information on California's population to properly protect public health:

   - Increasing cultural and ethnic diversity
   - Increasing number of persons 65 or older
   - Increasing percentage of young persons

Internal Challenges

1. *INCONSISTENT QUALITY AND RELIABILITY OF PUBLIC HEALTH INFORMATION*
   Characteristics of California's current public health data and data systems include:

   - Abundance of similar public health data stored in a variety of formats and places
   - Non-integrated data systems, data sets, and applications (silos of data)
   - Proliferation of redundant, inconsistent data and processes among public health information systems
   - Failure of data-users to understand or appreciate issues of data accuracy, security, and currency (lack of understanding of the origins of data leads to the misuse of data)
   - Information queries often produce inconsistent results
   - Many public health agencies are untrained in the use of tools for data access, analysis, modeling, and planning
   - Lack of geographical or personal identifiers in public health data
   - No overarching strategy for data stewardship (effects include inconsistent data update and recovery activities and inability to access data)
   - Business, cultural, legal, and process barriers impede data sharing

2. *PROJECT PROCUREMENT CONTROL PROCESSES IMPEDE TECHNOLOGY DEVELOPMENT EFFORTS*
   Impacts of California's current procurement policies and processes include:

   - Delays in receiving project approvals
   - Poorly prepared project documentation and plans due to a poor understanding of project control process requirements
   - Increased cost of procurements
   - Slow procurement process leading to the procurement of obsolete technology
   - Risk-averse environment keeps worthwhile projects from being undertaken

3. *CONFUSION OVER THE SCOPE OF NEDSS AND PHIN*
   According to public health stakeholders, there is:

   - No clear Department-wide understanding of the CDC's NEDSS and PHIN initiatives
   - Diverse expectations about the benefits to California of NEDSS and PHIN

   Conversely, the CalPHIN Steering Committee is recognized as a valuable forum for resolving this issue by promoting a common and accurate understanding of NEDSS and PHIN and by informing and educating interested parties.

4. *NO FORMAL FRAMEWORK TO SUPPORT COLLABORATION AMONG PUBLIC HEALTH ENTITIES AND COORDINATION OF PUBLIC HEALTH INFORMATION*
   Characteristics of California's current public health system include:

   - Difficulty of collaboration on technical or business issues among the various State and local public health agencies
   - Informal, ad hoc exchanges of information among agencies often resulting in the exchange of incomplete and inaccurate data and information
   - Belief that collaboration is more talked about than engaged in
   - Public health data and information existing in redundant or overlapping "silo" systems
   - Local public health agencies looking to the State for leadership in the development of standards and information systems

5. *INCONSISTENT METHODS OF COMMUNICATING AND SHARING INFORMATION TECHNOLOGY PROJECTS AND TOOLS*
   Characteristics of California's current public health system include:

   - Technical capabilities and assets (including systems, licenses, skills, tools, and knowledge) are not leveraged across the public health system
   - Departmental technology support organizations (such as the Information Technology Services Division, Project Management Office, and Information Security Office) are unknown or misunderstood
   - Practice of developing systems "under the radar" prevents the sharing of ideas and solutions

6. *MULTIPLE, OVERLAPPING REQUESTS FOR PROVIDERS TO COLLECT AND REPORT PUBLIC HEALTH INFORMATION*
   Characteristics of California's current public health system include:

   - Public health programs do not coordinate with each other before setting reporting requirements for health care providers
   - Most health care providers have a public health relationship at the local rather than State level

7. *UNCLEAR AND INCONSISTENT STANDARDS FOR DATA CONFIDENTIALITY, PRIVACY, AND SECURITY*
   Characteristics of California's current public health system include:

   - Confusion about the impact of HIPAA on the sharing of information for public health purposes
   - Concerns among public health programs and local health departments about their liability in sharing private information
   - Concerns about the potential misuse of data
   - Data sharing policies of public health programs often do not meet legislative or regulatory requirements
   - Incompatible IT infrastructures impede cross-program and Departmental security efforts

8. *DIVERSE PUBLIC HEALTH INFORMATION SYSTEM ENVIRONMENT*
   Characteristics of the current public health IT environment include:

   - Multiple information systems in varying stages of the system development life cycle
   - Limited effort to coordinate or integrate systems that are in development
   - Current and planned systems utilize multiple and incompatible platforms, tools, and technologies

The remaining sections of this Plan present the strategic direction of the CalPHIN effort, including a vision, strategic goals, objectives, and strategies.

VISION FOR THE FUTURE

The CalPHIN Strategic Plan begins with a simple vision statement intended to convey a compelling image of the future. The CalPHIN vision describes how the public health system will manage data and information to meet many of the challenges, demands and opportunities of the future. This vision statement will guide the CalPHIN initiative's short- and long-term decision-making as well as the overall approach taken to information technology and business management. The result will be an integrated and coordinated public health information network.

CalPHIN Vision

Provide timely and secure access to quality public health data for surveillance, analysis, and decision-making, respecting the confidential nature of personal information.

The following section describes the CalPHIN Strategic Goals and Objectives, and presents an ambitious agenda, comprising a sound framework for using technology and data, to achieve the CalPHIN vision.

STRATEGIC GOALS AND OBJECTIVES

A Multi-Year Plan for Technology and Public Health Information Management

The CalPHIN Strategic Plan sets forth a business-driven plan designed to meet the needs of diverse stakeholders for cost-effective business and technology solutions that provides complete and accurate information about California's public health. The CalPHIN Strategic Plan comprises six Strategic Goals, each of which includes a set of corresponding objectives and strategies. The goals and objectives are discussed below, along with their benefits for public health information and the measurements to track progress. Detailed strategies that describe specific actions steps are presented in a later section.

CalPHIN Strategic Goals

Leadership: Establish leadership to oversee and guide the development, evaluation, and implementation of CalPHIN policy and initiatives

Standards: Develop and implement standards and procedures to support the management of public health information

Collaboration: Develop and manage public health systems collaboratively with partners and key stakeholders to improve public health data sharing and infrastructure development

Enabling Technology: Implement reliable, effective, and efficient information technology solutions to support the public health information infrastructure

Security/Confidentiality: Provide a secure environment for public health information that protects the privacy of Californians

Project Success: Deliver public health projects on time and within budget while successfully achieving objectives

CalPHIN Alignment with DHS Initiatives

The CalPHIN Strategic Goals were developed based on multiple criteria. While the primary input came from the CalPHIN stakeholders, they were developed to specifically support the existing goals of the Department and the DCDC. The CalPHIN goals also align with CDC initiative requirements (such as NEDSS and PHIN specifications).

Specifically, the CalPHIN Strategic Plan aligns with the DHS's overall mission and vision documented in the March 2002 *Strategic Plan for the California Department of Health Services*. The plan supports the following DHS Key Issues (significant challenges facing DHS or its partners that must be overcome to achieve its vision in a five-year period):

1. Optimize State and local public health capacity
2. Improve coverage and access
3. Improve health status and outcomes
4. Foster integrated services delivery
5. Develop and cultivate the DHS employee capability to fulfill the DHS mission
6. Improve business practices

The CalPHIN Strategic Goals also support the following DCDC's major activities to respond to current challenges as documented in the December 2000 *Communicable Disease Control in California* report (i.e., DCDC Annual Report):

1. Improve laboratory capacity and develop more accurate and efficient diagnostic methods for new bacterial, parasitic, viral, and rickettsial diseases
2. Expand and enhance infectious disease surveillance, detection and tracking, including:
   a. Automating and improving local and State reporting (through use of the Internet) of infectious diseases to assure timely and accurate assessment
   b. Developing electronic laboratory reporting to speed up response time to disease outbreaks
3. Improve the capacity and readiness at both State and local public health levels to assure disease crisis intervention to control outbreaks and prevent the spread of infectious diseases
4. Develop and improve systems, immunization registries, and other links with private and public health care providers
5. Expand partnerships with health plans, sister agencies, and a agriculture-related businesses
6. Using population-based methods and channels, inform, educate, and communicate communicable disease prevention information to health care providers, policy makers, and communities at risk of infectious diseases
7. Thoughtfully and effectively address the disparity in health status and burdens of infectious diseases in California's ethnic, age, and gender groups

In addition, the CalPHIN strategic direction includes concepts from the following CDC PHIN requirements:

1. An interoperable network – built on the internet and using industry standards
2. Support users – provides information and decision support to public health professionals
3. Live data – continuous detection and evaluation of threats
4. Dual use – meet bioterrorism preparedness and response needs and transform routine public health practice
5. Engage industry – set direction for private sector participation
6. Common data language – use of industry standards for data use and exchange

Figure 6, that follows, illustrates the interrelated sets of goals and stakeholder needs that define the strategic direction for attaining the CalPHIN vision.

Figure 6. Stakeholder Strategic Direction and the CalPHIN Goals

Key Stakeholder Interview Themes

DHS Mission

DHS Vision

Key DHS Issues

PHIN Requirements

Major DCDC Activities

California Public Health Information Network Strategic Goals

- Establish leadership to oversee and guide the development, evaluation, and implementation of CalPHIN policy and initiatives
- Develop and implement standards and procedures to support the management of public health information
- Develop and manage public health systems collaboratively with partners and key stakeholders to improve public health data sharing and infrastructure development
- Implement reliable, effective, and efficient information technology solutions to support the public health information infrastructure
- Provide a secure environment for public health information that protects the privacy of Californians
- Deliver public health projects on time and within budget while successfully achieving objectives

Leadership

Strategic Goal 1: Establish leadership to oversee and guide the development, evaluation, and implementation of CalPHIN policy and initiatives

Objectives

- Create an organization with responsibility and accountability to coordinate efforts
- Implement organizational and governance structures to provide effective, broad-based, and rapid decision-making
- Promote a mindset of data stewardship
- Manage cultural changes to implement a public health information network

A well-defined leadership and governance structure will facilitate successful implementation of the CalPHIN initiative. Such a structure will provide the opportunity to enhance communication, establish and promote guidelines and policies that expedite decision-making, promote data stewardship, and foster coordination and cooperation. Thus, the intent of *Strategic Goal 1* is to identify and charter an appropriate CalPHIN leadership and governance structure to ensure the success of the initiative. The responsibility of the CalPHIN leadership in the context of this Strategic Goal is to obtain the commitment and support of key stakeholders, develop appropriate change management and problem resolution processes, and promote the awareness of the CalPHIN initiative throughout the State.

Strategic Goal 1 aims at developing an effective governing organization (the CalPHIN Office and associated work groups). The CalPHIN Office will have the authority to make and execute key decisions and will provide the leadership necessary to ensure that decisions produce the desired results. It is important that the governing organization continue beyond the initial planning stage of CalPHIN. Although its structure, membership, and primary focus may change over time, the governing organization must maintain momentum as the CalPHIN effort shifts from being a set of specific time-limited projects to becoming an ongoing way of doing business.

The four objectives described on the following pages were developed to achieve this goal.

| Objective 1-1 | *Create an organization with responsibility and accountability to coordinate efforts* |

Leadership is the cornerstone of the implementation and ongoing success of CalPHIN. The CalPHIN initiative requires centralized leadership to direct and guide the effective collaboration among stakeholders in the private and public sectors and all levels of the public health community.

Objective 1-1 calls for the creation of a leadership organization responsible and accountable for guiding the CalPHIN initiative. Without such a leadership organization, current and future change and improvement efforts may proceed at cross-purposes rather than in a complementary and synergistic manner. The inherent complexity of public health issues and the current division and separation of responsibilities and powers call for a formal organizational structure. The creation of such a leadership organization is a necessary first step toward ensuring that all the principal CalPHIN stakeholders are involved in the ongoing initiative.

Objective 1-1 recommends creating a leadership organization, referred to as the CalPHIN Office, to establish a mission, membership, decision-making structure, and charter. The Office will be a single point of accountability for public health system integration efforts. A senior public health official with experience in public health policy and technology issues will lead the Office, which will facilitate and coordinate efforts to integrate public health data systems in a manner consistent with the CalPHIN vision. The Office will promote a single vision and determine the scope and focus of CalPHIN; identify legal, policy, administrative, funding, technical, and business requirements and other obstacles to achieving integration; define and sanction project objectives, tasks and timetables; garner support from State decision-makers; and resolve obstacles to implementation.

| Objective 1-2 | *Implement organizational and governance structures to provide effective, broad-based, and rapid decision-making* |

The purpose of *Objective 1-2* is to establish a governance structure within the CalPHIN Office. This structure will provide a framework for guiding the development of initiatives and ensuring that participating stakeholders take advantage of the associated benefits by enabling projects to exploit opportunities and to ensure IT resources are used responsibly and risks are managed appropriately.

This objective calls for the creation of work groups, directed by the CalPHIN Office, to provide effective, broad-based, and rapid decision-making. This governing body (CalPHIN Office and supporting work groups) will set the agenda for CalPHIN investments, adopt CalPHIN policies, and integrate CalPHIN activities with other ongoing and planned public health activities. The proposed CalPHIN Office, as a policy-setting organization, is envisioned to coordinate and oversee CalPHIN-related policy, program, and technology activities and promote timely action by appropriate DHS programs and offices. The supporting work groups should include broad stakeholder participation. This will ensure a wide variety of perspectives and input from all relevant public health participants to formalize and ensure equality in decision-making.

This governing structure recognizes the roles of all key stakeholders, including the public, and conducts its work through collaborative mechanisms whenever possible.

The following diagram identifies the specific work groups and presents the organization of the CalPHIN governing body.
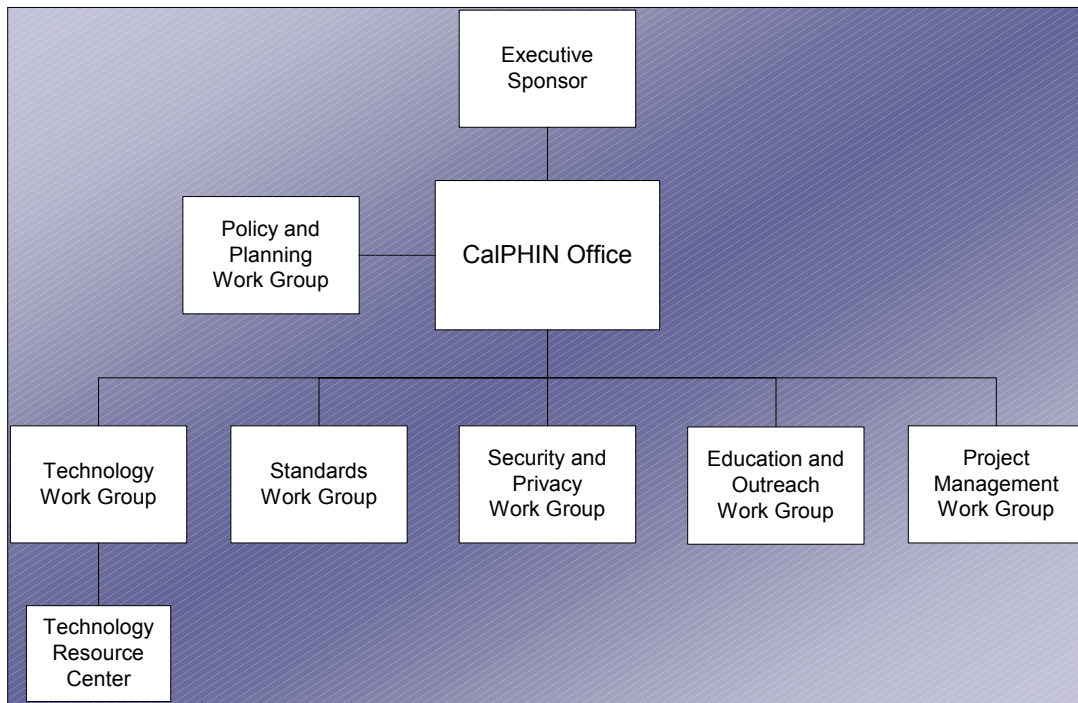

Figure 7. CalPHIN Organization

Appendix A provides more detail on the CalPHIN organization structure and associated roles and responsibilities for the various work groups.

Objective 1-3	*Promote a mindset of data stewardship*

Currently, public health data is collected and maintained in – and made available through – "silo" systems. In general, these systems and the data they manage are owned and maintained by individual programs or local agencies. This "silo" structure creates barriers that prevent the timely sharing of data with otherwise appropriate and authorized parties who happen to work in a different program or agency. While some barriers derive from policy and legislation, others are based on arbitrary or unnecessary organizational practices that impede access to data and discourage cooperation and sharing.

Objective 1-3 calls for the CalPHIN Office to lead an effort to promote a mindset of data stewardship among the CalPHIN initiative participants and within the Department of Health Services as a whole. Stewardship and ownership are not synonymous.

> **"There needs to be a move away from data ownership toward data stewardship"** CalPHIN Strategic Plan Interviewee

Ownership is the right to manage, use, dispose of, or hold something privately. Stewardship, on the other hand, is the obligation to protect, care for, and make good use of something in the name of an organization or a broad community of stakeholders.

The main objective of a philosophy of data stewardship is to improve the usefulness, availability, and quality of an organization's data assets. Data stewardship implies that the responsibility to manage and use public health data wisely is shared by the originators and all secondary users of the data. Stewardship includes the "respectful use of data" compiled from separate and distinct programs and systems and includes making such data available to all authorized parties and protecting the privacy, security, and confidentiality of the data.

Objective 1-3 calls for the CalPHIN Office to establish accountability policies and controls for all public health data and to promote the concept of data stewardship by:

- Identifying and widely communicating key data management principles
- Identifying and communicating responsibilities associated with data stewardship
- Creating an action plan that utilizes small incremental steps

Objective 1-4	*Manage cultural changes to implement a public health information network*

The CalPHIN initiative calls for the sharing of resources and data among public health offices and agencies. Such sharing will facilitate the development of solutions to enhance California's public health system, but it will also require organizations to change how they manage their information assets, business processes, technology systems, and operational procedures. The nature and impact of the changes that CalPHIN introduces will be different for individual State and local agencies, depending upon their unique business processes, culture, funding, and staffing. The challenge of managing these changes will be significant.
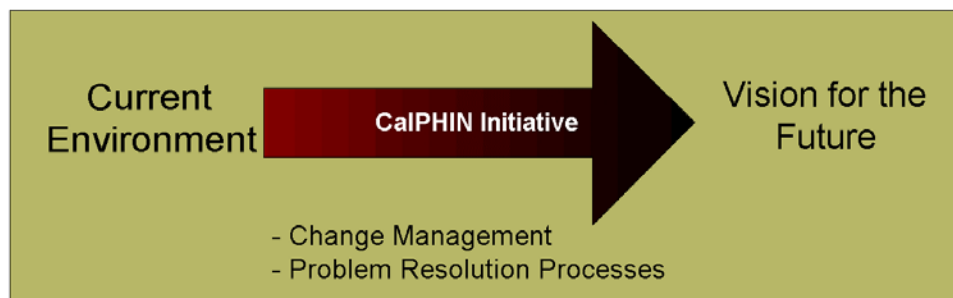
As illustrated above, *Objective 1-4* calls for the development of appropriate change management and problem resolution processes to support the needs of individual organizations as California seeks to achieve the broader CalPHIN vision. The needs and wants of diverse CalPHIN stakeholders will vary and, likely, conflict from time to time. A successful change management plan cannot ignore the perspectives and positions of any stakeholder agency or office. Thus, *Objective 1-4* calls for the adoption of a philosophy of inclusiveness and broad-based decision-making, in addition to the development of formal processes for reaching consensus on controversial issues.

Objective 1-4 includes the development of organizational transition plans to facilitate the success of major operational change initiatives. These plans should include activities to help stakeholders understand why change is necessary and campaigns to build commitment to the CalPHIN vision. The plans should also identify critical success factors for change initiatives (such as, leadership, communication, training, rewards, and recognition) and explain that measurable progress and continuous improvement are necessary to sustain such initiatives.

Strategic Goal 1 Expected Outcomes

Outcomes are the actual results achieved, as well as the impact of benefits for stakeholders during or after their involvement with a program. Outcomes may relate to knowledge, skills, attitudes, value, behavior, condition, or status.

- Greater awareness and understanding of CalPHIN
- Improved support for and commitment to the CalPHIN vision
- Allowed the organization to set, and communicate, consistent expectations of the CalPHIN initiative throughout the Department
- Greater accountability among public health agencies to work toward achieving the CalPHIN vision
- Coordinated and collaborative leadership to support the effective management and use of public health information across the State
- Improved communication among CalPHIN stakeholders
- Improved opportunities to develop and implement effective bioterrorism prevention, preparedness, planning, detection and notification programs
- Central forum for the sharing of business and IT solutions to public health problems
- Continued momentum of CalPHIN implementation throughout California
- Improved support and planning for public health programs that address issues related to changing demographics
- Improved understanding of and support for the philosophy of data stewardship

Strategic Goal 1 Performance Measures

Performance measures provide a measure of discipline in evaluating the relevance and contribution of strategic goals to the overall vision and ensure accountability by creating objective measures of success.

- Identification of a senior health official to serve as Program Director
- Endowment of leadership authority
- Number of chartered work groups established and regularly meeting
- Number and diversity of stakeholder groups participating in work groups and CalPHIN activities
- Number of local public health programs participating in work groups
- Number of CalPHIN initiatives reviewed, approved, and successfully implemented

Standards

Strategic Goal 2: Develop and implement standards and procedures to support the management of public health information

Objectives

- Adopt a comprehensive methodology for setting data, technology, and process standards
- Adopt comprehensive public health data standards
- Adopt technology standards that comply with relevant health care industry specifications
- Develop and implement optimal process standards

The Department collects, maintains, and uses vast amounts of data and information to support the State's public health system and business operations. Many technology solutions and business processes enable the Department to manage data for such diverse purposes as:

- Public health surveillance
- Case management
- Statistical analysis
- Event detection
- Epidemiological studies
- Development of annual reports
- Reporting to Federal, State, and local agencies
- Project development/project management

The technology solutions and business processes that support achievement of these purposes evolved independently and over a number of years. For many reasons, little effort has been made to integrate them, and, as a result, the State's public health agencies are generally unable to effectively share data, processes, or technology.

The process of integrating the State's public health technology systems and data requires reaching agreement on certain standards. This is true for both the physical integration of public health information systems and for the effective exchange of data among systems. Such standards include data standards (such as common definitions of data elements and terms,

uniform identifiers, PHIN-compliant data models); technology standards (such as compatible communication protocols, standard tools and technologies for development, analysis, and visualization); and standards to streamline business processes and allow disparate information systems to work together as an integrated network.

The current lack of standards for information systems and data exchange is a significant obstacle to effective data and information sharing among California's public health agencies. With such standards, public health partners could begin to design and adapt systems to enable the sharing of many types of data and information, greatly increasing its value and utility. *Strategic Goal 2* calls for the CalPHIN initiative to adopt and build upon Federal standards, such as the CDC's NEDSS and PHIN standards. In addition, the CalPHIN Office will work with national and state-level health care standards-setting organizations (such as the HL7 committees) to identify potentially useful standards for electronic information sharing between public health agencies.

More specifically, *Strategic Goal 2* includes mapping data elements to a standard format that enables the seamless electronic exchange of information. Such standards would guide both the "what" and "how" of data transmission. Such standard formats would facilitate and guide the secure exchange of information between programs.

Finally, *Strategic Goal 2* calls for the creation of a Standards Work Group to evaluate, approve, disseminate, and maintain standards related to public health data, tools and technology, and business processes. Standards for project management, security, and privacy are addressed separately in *Strategic Goals 5 and 6*.

The following objectives are critical to the success of *Strategic Goal 2*.

Objective 2-1	***Adopt a comprehensive methodology for setting data, technology, and process standards***

Under *Objective 2-1,* the CalPHIN Office will establish a comprehensive and uniform methodology for setting data, technology, and process standards. Using this methodology, standards will be developed to:

- Meet the business needs of State and local public health programs
- Promote cost-efficiency
- Support an integrated technology infrastructure
- Increase data reliability, integrity, and accessibility
- Ensure data and system security
- Include efficient technology-related business processes
- Promote strategic innovation in the use of new and non-standard technologies

Objective 2-1 calls for the CalPHIN Standards Work Group to define an effective and appropriate methodology for setting data, technology, and process standards, and for disseminating and maintaining the standards. The Work Group will review internal and external best practices before adopting a standard-setting methodology. Once the methodology has been adopted, the Standards Work Group will work with the Technology Work Group to define the standards themselves.

 The methodology for identifying standards will include the:

- Criteria and processes for developing and evaluating standards

- Areas in which standards must exist
- The level of detail in which the standards will be developed and maintained
- Composition of the Standards and Technology Work Groups to ensure broadly representative participation of State and local public health programs
- Processes for communicating, marketing, and enforcing standards

Once the methodology is adopted, the two Work Groups will adopt and publish the standards, as described in *Objective 2-2*, below. The effort will also include the adoption of oversight and enforcement mechanisms to ensure compliance.

Objective 2-2	*Adopt comprehensive public health data standards*

To ensure California's critical public health data and information needs are met, *Objective 2-2* calls for agencies and programs to adopt comprehensive data standards and policies. Such standards and policies will support the creation and use of consistently reliable, timely, and accessible data. Specifically, standards and policies are needed for core data sets; classifications and terminologies; uniform identifiers; data collection and reporting; data access, disclosure, and confidentiality; and data transmittal. Once these standards have been identified and prioritized, the CalPHIN Office will develop a complete set of standards and policies for data vocabularies and for the use and management of data across the public health system. The effort will build upon recent and ongoing efforts to establish data standards and policies within the Department, at the Federal level, and by national standards-setting organizations.
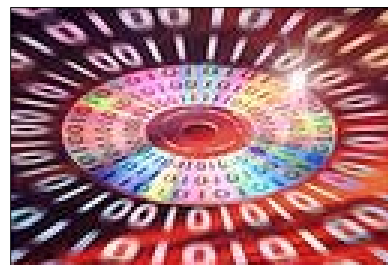
The development of data standards and policies will proceed incrementally, beginning in the areas of greatest need. The data standards and policies will encompass the following:

- A dictionary of common data definitions and universal identifiers
- A published inventory of the relevant data assets, sources, and owners
- Protocols and procedures for accessing and using relevant data
- Data models and protocols to develop PHIN-compliant databases

In addition, *Objective 2-2* includes the capture of "metadata," which is information about the data available in various systems. Inventories of existing databases, as well as information on data origins, formats, collection frequency, content, sources, quality, access protocols, contact persons, uses, and types will be made available to different classes of users. This will greatly enhance the value and utility of public health data.

Objective 2-3	*Adopt technology standards that comply with relevant health care industry specifications*

Objective 2-3 calls for the CalPHIN Standards Work Group to adopt a complete set of technology standards and policies that support the CalPHIN vision and meet relevant health care industry specifications. These standards will guide future CalPHIN development efforts. The effort will proceed incrementally, beginning in the areas of greatest need. As with *Objective 2-2,* the CalPHIN Office's effort will build upon recent and

ongoing efforts to establish technology standards within the Department. The technology standards and policies will encompass the following:

- Identification of relevant industry technology standards
- A published inventory of relevant technology tools and expertise
- Protocols and procedures for using technology standards

Objective 2-3 focuses on the technology required to support public health information systems. Under this Objective, therefore, the CalPHIN Office will identify those technology standards currently in use in public health agencies in California and elsewhere that are consistent with the direction of CalPHIN. The review of standards will include the CDC's NEDSS Systems Architecture and the Public Health Information Technology Functions and Specifications. These are built around recognized national standards, de facto commercial standards that are not tied to particular vendors, standards for Internet information exchange, and other documented standards. In addition, the Work Group will consider standards developed in other states and nationally for population health, disease management, and data-security purposes. Where standards do not exist, the Work Group will recommend the ones that best support the development of integrated public health systems.

Objective 2-4	*Develop and implement optimal process standards*

The standards necessary for achieving the CalPHIN vision include more than the technical and data standards that impact programmers and information systems projects. Planning for and implementing CalPHIN will be a complex effort involving many political, organizational, legal, cultural, and personal – as well as technical – issues. Thus, the CalPHIN Office must also develop business process standards to help guide the collection, sharing, and use of public health data.

Objective 2-4 comprises the adoption of standards that ensure the effectiveness and efficiency of agency business processes related to the creation and use of public health data. An important part of this objective will be the identification and evaluation of those current business processes that are most labor intensive and inefficient. Thus, *Objective 2-4* seeks to reduce or eliminate manual and redundant processes, paper-intensive procedures, and ad-hoc processes and systems that unnecessarily impede the sharing of data and information in California's public health system.

This objective includes undertaking Business Process Reengineering (BPR) efforts as essential parts of all new system development projects. BPR is a structured process that includes:

- Identification, decomposition, and analysis of current business practices and processes
- Evaluation of options for enhancing or reengineering business practices and processes in order to improve performance relative to business goals and objectives
- Implementation of enhanced or reengineered processes – and supporting technology – to maximize organizational effectiveness and efficiency

> *"Technology is about 20 percent of the solution, understanding content and having good processes and people in place working through the culture [is] the other 80 percent."*
> Larry Chait, The Knowledge Paradox: How to Manage your Most Strategic Asset

Objective 2-4 includes completing a foundational assessment of the business processes and data needed to support the CalPHIN vision. Building on recent and ongoing efforts, the assessment will result in a comprehensive model of current business processes and data management practices – and how they interrelate – across the spectrum of State and local public health agencies. This descriptive model would assist public health agencies in identifying inefficiencies, obstacles, and gaps that stand in the way of achieving the CalPHIN vision.

By working together, it is possible for State and local public health agencies to design and adopt optimal "end-to-end business processes" that are supported by integrated technology solutions. Such a solid foundation of process and technology would allow agencies to work together collaboratively to achieve even the broadest public health goals.

Strategic Goal 2 Outcomes

- Improved data sharing between public health programs
- Improved public health decision-making through the use of consistent, reliable information
- Increased efficiency and consistency in the management of critical public health data
- Improved timeliness, accuracy, and completeness of information
- Increased ability to share public health information electronically

Strategic Goal 2 Performance Measures

- Completion of process and data models
- Number of standards published
- Number of standard-setting organizations with CalPHIN representation
- Number of systems incorporating data and technology standards
- Number of systems with plans to incorporate data and technology standards
- Number of process standards incorporated
- Number of enterprise licenses for standard software, hardware, and services

Collaboration
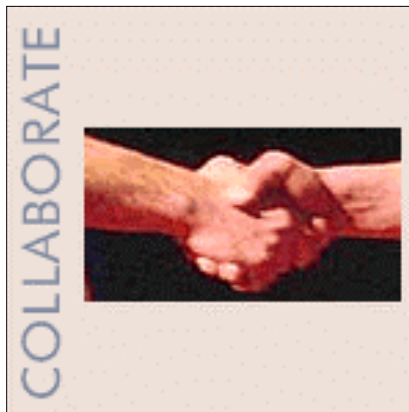
Strategic Goal 3: Develop and manage public health systems collaboratively with partners and key stakeholders to improve public health data sharing and infrastructure development

Objectives

- Leverage internal and external expertise and resources to meet shared needs
- Optimize the use of funding streams to support public health information network efforts
- Effectively communicate public health information network efforts
- Promote opportunities for cross-program solutions

Coordination and collaboration must occur at all levels for the CalPHIN initiative to become a reality. *Strategic Goal 3* calls for an effective cross-program approach guided by thoughtful planning and strong leadership. Such an approach will ensure that the necessary collaboration and coordination takes place and that the development and deployment of CalPHIN initiatives occurs in a timely manner and meets the needs of all public health professionals.

Strategic Goal 3 emphasizes a collaborative approach to the development, deployment, and operation of solutions designed to meet shared business needs. Through such collaboration, the return on investment in the public health information network can be optimized. Under *Strategic Goal 3*, the CalPHIN Office will lead the effort to inventory and leverage existing solutions across the public health community to meet shared needs.

In addition, *Strategic Goal 3* stresses the importance of proactive communication for all CalPHIN projects. Communication is vital to manage expectations about the CalPHIN initiative, including how public health stakeholders can participate. This Strategic Goal includes development of a Communication Plan to efficiently and effectively communicate with a variety of public health partners. Effective communication means providing information in the right format, at the right time, and with the right impact.

The following objectives describe steps to achieve this goal.

| Objective 3-1	*Leverage internal and external expertise and resources to meet shared needs*

The leveraging of expertise and resources across DHS to meet shared business needs will support achievement of the overall CalPHIN vision. *Objective 3-1* aims at utilizing scarce resources to the best of the Department's ability in order to develop and deploy new solutions that meet the needs of multiple users.

Under *Objective 3-1*, the CalPHIN Office will convene the Policy and Planning, Technology, and Project Management Work Groups. These Work Groups will be responsible for developing and maintaining an inventory of state and local applications, technologies, tools, and resource skills to serve as a baseline for future systems development and infrastructure improvement projects.

The CalPHIN Office and Project Management Work Group will use the inventory to assist in coordinating and prioritizing CalPHIN initiatives. In addition, the inventory will provide a clear picture of the resources and tools that are available to support future collaborative development efforts.

Objective 3-2	*Optimize the use of funding streams to support public health information network efforts*

Funding is a critical resource for the development of an integrated California public health information network. Because public health funding streams are typically targeted for very specific purposes, finding ways to effectively coordinate the use of funds is challenging. Typically, little effort is made to determine how best to leverage the use of public health funds across programs or agencies. Nonetheless, the CalPHIN vision calls for promoting cross-program collaboration, including optimizing the use of diverse funding streams to accomplish CalPHIN goals.
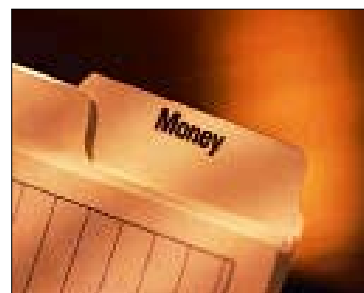
Under *Objective 3-2,* the participants in the CalPHIN Office will facilitate joint planning efforts to encourage the exchange of information about CalPHIN efforts at the State and local levels. The goal of this joint planning will be to minimize duplication of effort and to optimize funding resources. The CalPHIN Office and Policy and Planning Work Group will work with key stakeholders to identify sources of public and private funding that could be used for integration efforts. The CalPHIN Office will then develop a strategy to pursue funding to support CalPHIN initiatives that provide for common solutions across State and local public health agencies.

Objective 3-3	*Effectively communicate public health information network efforts*

Effective communication about the CalPHIN initiative is important to ensure that the initiatives and benefits of CalPHIN are well-understood by all stakeholders. This means that accurate information about the initiative is shared with all parties and that communication is consistent, clear, accurate, and timely.

Under *Objective 3-3*, the CalPHIN Office will develop a comprehensive communication plan that will:

- Serve as an agreement among all CalPHIN stakeholders to promote effective communication
- Ensure that the CalPHIN Office is aware – and takes advantage of – all opportunities to promote successful achievement of the CalPHIN vision
- Keep all information-sharing and communication focused and concise
- Prevent surprises
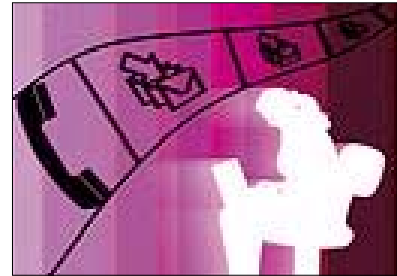
Objective 3-3 calls for frequent and clear communication with DHS executives, state and local public health officials, and other public health partners about the all CalPHIN initiatives. Such communications will be made via the Internet, email, white papers, focus group meetings, and other media, as necessary.

Appendix B provides more detail on communicating and marketing the CalPHIN Strategic Plan and specific CalPHIN initiatives.

Objective 3-4	*Promote opportunities for cross-program solutions*

Well-designed IT systems enable people and organizations to work collaboratively, share information securely, and simplify business processes. The development and implementation of such systems is central to the CalPHIN strategy. Currently, however, public health IT systems and solutions typically are developed for specific, categorical programs. Little effort is made to build systems that enable cross-program data sharing or that leverage the value of IT solutions across multiple programs. Although there will always be a need for unique and specialized applications that support individual programs and local health departments, the CalPHIN vision emphasizes the importance of building and using common solutions and tools that create value across program and organizational boundaries.

Cross-program solutions reduce total development costs, promote data and information sharing, improve information integrity, and enable improvements in business processes. In the future, the CalPHIN Office will build and promote such solutions wherever possible. The Department has initiated projects that support cross-program solutions, including the California Electronic Disease Alert and Reporting System (CELDAR) pilot, which meets the electronic laboratory reporting needs of multiple public health programs. However, there are many other instances where business processes transcend organizational boundaries, make use of identical or similar data, and utilize similar technologies and systems. Each of these instances represents an opportunity to improve the State's public health system and contribute to the achievement of the CalPHIN vision.

Objective 3-4 calls for the CalPHIN Office to develop a blueprint for assessing, selecting, scoping, and sequencing opportunities to build cross-program IT solutions. The transition from today's environment to one that is more integrated and unified will require leadership, commitment, and careful planning. The effort will be supported by development of a CalPHIN enterprise architecture and investment management plan and the forging of strong partnerships

between public health IT and business process owners. The Project Management Work Group, comprising CalPHIN initiative project managers, will work to foster collaboration and to support cross-program solutions.

Strategic Goal 3 Expected Outcomes

- More efficient use of public health funds and other limited resources
- Increased commitment to a philosophy of data stewardship
- Fewer barriers to data sharing
- Higher levels of data integrity and consistency
- Increased awareness of the needs of the broader public health community
- Improved communication among public health colleagues

Strategic Goal 3 **Performance Measures**

- Number and variety of stakeholders participating in work groups
- Number of formal agreements between State and local programs to facilitate sharing of data and resources
- Number of cross-program initiatives funded from multiple sources
- Number of educational courses and information meetings in support of CalPHIN activities
- Number of joint planning efforts

Enabling Technology

Strategic Goal 4: Implement reliable, effective, and efficient information technology solutions to support public health information infrastructure

Objectives

● Implement technology solutions compatible with the CDC's Public Health Information Network initiative

● Improve communication and information exchange between internal and external public health stakeholders

● Promote a comprehensive perspective in the use of technology resources for public health information systems

An integrated network of public health information systems is central to the achievement of the CalPHIN vision. Such a network of systems will capture, store, organize, and present comprehensive public health information that is largely unavailable today and yet is crucial for public health case management, event detection, problem solving, planning, and emergency response. There is an urgent need to reduce the number of "silo" solutions and enable more effective cross-program data exchange.

Strategic Goal 4 requires that the existing public health IT infrastructure be enhanced and expanded to achieve this end. An integrated approach for the use of technology to support public health goals will:

- Take advantage of excess computing capacity
- Promote the secure, electronic exchange of information across programs and jurisdictional boundaries
- Continue to meet all existing stakeholder and program requirements
- Promote the availability, reliability, stability, and support of technology resources

The intent of *Strategic Goal 4* is to ensure that public health programs make prudent technology investments and that the resulting solutions are as integrated as possible. To this end, the CalPHIN Office will encourage and give priority to technical solutions that are compatible with current health care industry standards (such as CDC's NEDSS and PHIN specifications); that improve communication and information exchange among public health stakeholders; promote collaboration among multiple stakeholders; and that further achievement of the overall CalPHIN vision.

The following objectives describe steps the CalPHIN Office will take to achieve this goal.

Objective 4-1	*Implement technology solutions compatible with the CDC's Public Health Information Network initiative*

"A network of networks for a healthier nation."

Currently, a number of pilot projects for public health information systems – either planned or in development – are compatible with the technical specifications identified in the CDC's NEDSS Systems Architecture document[6] and the Public Health Information Technology Functions and Specifications document.[7] Many of these pilot projects are at a point where consideration should be given to expanding them beyond their initial scope. *Objective 4-1* calls for the CalPHIN Office to promote and endorse the statewide implementation of those pilots that have successfully demonstrated their ability to support surveillance and other public health-related activities.

Under *Objective 4-1,* the CalPHIN Office will convene the Technology Work Group and develop the Technology Resource Center to provide a single source of expertise about CalPHIN standards, technologies, and solutions. The Resource Center will include technology and business process experts from a variety of public health programs able to provide advice and feedback on all aspects of CalPHIN. The Work Group and Resource Center will provide access to experts who are able to guide public health officials in the selection of technology that is compatible with other public health technology projects and initiatives. In addition, they will assist officials in determining how to leverage the capabilities of existing systems.

Objective 4-2	*Improve communication and information exchange between internal and external public health stakeholders*

California's public health stakeholders are a large and diverse group with many different and sometimes unique information needs. To continuously improve and protect the health of Californians, the State must be able to deliver the right public health information to the right parties at the right time. The focus of future information systems development efforts should include improved information and data management strategies that support timely and accurate sharing of public health data and information.

---

[6] Refer to http://www.cdc.gov/nedss/NedssArchitecture/NEDSSsysarch2.0.pdf for the NEDSS Systems Architecture Version 2.0 documentation.

[7] Refer to http://www.cdc.gov/cic/functions-specs/ for the Public Health Information Technology Functions and Specifications (for Emergency Preparedness and Bioterrorism) documentation.

The nature of public health data requires that it be captured and made accessible in a distributed environment (i.e., the data must be created and/or captured and stored in numerous locations for a variety of reasons). Furthermore, many of these data are generated in an electronic format. Under *Objective 4-2*, the CalPHIN Office will facilitate the development of an electronic communications infrastructure for the rapid exchange of information throughout the State. This infrastructure will include equipment, protocols, and software to connect and exchange data among a variety of distributed users.

In addition, as part of *Objective 4-2,* the CalPHIN Office and Policy and Planning Work Group will develop and promote an inventory of State and local development efforts, technologies, and resource skills. This inventory will be used to identify and prioritize future CalPHIN projects that encourage statewide, shared technological applications over single-program "silo" applications.

Under *Objective 4-2*, the CalPHIN Office will also ensure appropriate stakeholder involvement in decisions regarding surveillance and public health information systems. Such involvement is critical to identify and, to the extent possible, accommodate stakeholders' key concerns and business objectives. The CalPHIN Office will regularly engage key stakeholders in the development of requirements prior to any systems development effort.

Objective 4-3	*Promote a comprehensive perspective in the use of technology resources for public health information systems*

The CalPHIN vision includes a move away from the development of solutions that focus on narrow or single problems or opportunities. Under *Objective 4-3*, the CalPHIN Office will promote a perspective in which priority is given to solutions that re-use existing technology or other resources (such as development personnel) and that can be adapted to resolve other public health information problems in the State.

The CalPHIN Office will develop an inventory of public health information technology solutions that are either currently in production or under development. The Office will maintain the inventory as a resource and tool that facilitates cross-program coordination among public health agencies. Through the effective management of this portfolio, the CalPHIN Office will ensure that potential common solutions are evaluated, selected, and managed to meet broad, comprehensive public health business needs consistent with the CalPHIN vision.

Under *Objective 4-3*, the CalPHIN Office will also implement a website that enables and facilitates information-sharing and communication between and among internal and external stakeholders regarding CalPHIN efforts. The website will provide a single and consistent access-point for stakeholders to find the information they need, including published standards and current CalPHIN initiatives. The CalPHIN website will be secure, convenient to use, reliable, and up-to-date, providing access to information from many CalPHIN information sources.

Finally, the Office will develop a CalPHIN information architecture. This architecture will comprehend the universe data, processes, and technologies used in California's public health system, and the relations between them. The CalPHIN Information Architecture will:

- Facilitate the development of single solutions to shared business problems, rather than multiple solutions to the same problem

- Promote a modular orientation – smaller units, more easily upgraded
- Simplify systems and improve business processes by decreasing duplicate data storage and redundant data entry
- Allow for the efficiency and interoperability inherent in standards
- Promote more effective public health system planning

Strategic Goal 4 Expected Outcomes

- Increased system development collaboration among public health stakeholders
- More efficient use of available technological capacity in public health systems
- Decreased total cost of maintaining technology systems
- Improved effectiveness and efficiency of data exchange between systems and public health stakeholders
- Improved access to public health information
- More consistency in public health data collection and presentation
- Broader awareness of public health technology initiatives and stakeholder requirements
- Greater awareness of public health infrastructure gaps

Strategic Goal 4 Performance Measures

- Completion of the CalPHIN Inventory, Website, and Architecture
- Number of information systems in production meeting CalPHIN standards
- Number of stakeholders providing input to the Technology Work Group
- Number of "Quick Wins" implemented and publicized
- Number of PHIN-compatible projects installed
- Number of inquiries to the Technical Resource Center
- Number of CalPHIN website users

Security/Confidentiality

> **Strategic Goal 5:** **Provide a secure environment for public health information to protect the privacy of Californians**

Objectives

- Ensure compliance with appropriate laws, regulations, policies, and standards
- Ensure coordination with HIPAA implementation efforts in California
- Promote security and confidentiality principles as part of data stewardship
- Provide secure access to the right people, at the right time, for the appropriate use

Much of the data necessary to administer effective public health programs – such as personal data about specific health conditions – is potentially sensitive and legally protected. As a result, the CalPHIN Office must take measures to maintain the privacy, security, and confidentiality of all health-related data and information. More specifically, personally-identifiable, health-related data available to State and local public health programs must be protected against unauthorized access, use, disclosure, and storage. This must be accomplished while maintaining the ability of public health programs to use such information for legitimate and appropriate public health purposes.

The CalPHIN effort must ensure that public health information will remain private, secure, and confidential. *Strategic Goal 5*, therefore, calls for CalPHIN Security and Privacy Work Group to define, promote, and enforce laws, regulations, policies, and standards for security and confidentiality. The CalPHIN Office will develop an approach to communicate and enforce this security infrastructure in the development of California's public health information infrastructure and specific solutions.

The following objectives describe specific actions to achieve this goal.

Objective 5-1	*Ensure compliance with appropriate laws, regulations, policies, and standards*

Laws and regulations create the framework for public health administration in California. They set the ground rules under which private entities and State and local public health programs may conduct health-related business transactions. These rules cover issues related to data privacy and security. In addition, they guide the development of regulations, policies, and standards for the administration of public health programs. Finally, Federal and State laws also establish the rules for reporting information considered vital for public health.

The CalPHIN Office must promote compliance with existing laws and regulations as well as propose new rules that maintain the integrity of data and information while supporting the overall CalPHIN vision. *Objective 5-1* includes chartering a CalPHIN Security and Privacy Work Group to participate in privacy and security policy-setting efforts at the local, state, and national levels. The Security and Privacy Work Group will collaborate with industry, federal, and state privacy and security-related organizations (such as the ITSD, Information Security Office) to identify relevant laws, regulations, policies, and standards, as well as industry best practices.

Under *Objective 5-1,* stakeholders in the CalPHIN initiative will participate in federal and state efforts to influence and support policies, mandates, regulations, standards, and business practices that promote data access, sharing, and protection of confidentiality.

Objective 5-2	*Ensure coordination with HIPAA implementation efforts in California*

The HIPAA provides a platform for the exchange of financial, clinical, and administrative information in health care transactions. HIPAA is designed to streamline health care delivery by employing standardized, electronic transmission of administrative and financial transactions, along with protection of confidential health information. HIPAA outlines a process to achieve uniform national health data standards and health information privacy in the United States. These "Administrative Simplification" provisions require all covered organizations to standardize the way they transmit and code health information for billing and record keeping purposes, and to protect the privacy of that information.

The DHS Office of HIPAA Compliance (OHC), established in May 2000, oversees the Department's HIPAA remediation efforts. The OHC is responsible for the successful implementation of the final rules for Transactions and Code Sets and Privacy, and will continue in the same capacity as additional HIPAA rules are published. OHC manages all Departmental HIPAA efforts in a consistent manner and follows project management best practices.

Objective 5-2 aims to coordinate CalPHIN efforts with the OHC remediation efforts. The CalPHIN Office and Security and Privacy Work Group will regularly communicate and coordinate their activities with California's HIPAA remediation effort.

Objective 5-3	*Promote security and confidentiality principles as part of data stewardship*

Under the CalPHIN initiative, the philosophy of data stewardship calls for an organizational commitment to ensure that all personally-identifiable health information is legally collected, maintained, used, and disseminated in a way that:

- Respects privacy
- Ensures confidentiality and security
- Reduces reporting burdens
- Promotes access to public health data for public health purposes

Achievement of the CalPHIN vision means that more and more data of growing complexity will be distributed and shared among more and more data users. In such an environment, data security and control policies must be clear and comprehensive and must be implemented in an integrated manner across systems and organizations. Thus, the enforcement of data protection, security, integrity, and auditability will be essential elements of CalPHIN's success.

Under *Objective 5-3*, the CalPHIN Office will promote the principles of data integrity, security, and confidentiality as fundamental aspects of data stewardship. This includes ensuring that individual data stewards adopt and enforce rules for access to and use of data from their systems. The CalPHIN Office's role will be to communicate and implement strategies, policies and controls that ensure data integrity, security, and confidentiality while promoting maximum system functionality and data sharing. The Office will also educate stakeholders on the importance of maintaining the security and confidentiality of health data.

Objective 5-4	*Provide secure access to the right people, at the right time, for the appropriate use*

Public health data is a vital resource for identifying and responding to public health threats and issues. The data must be timely and reliable, and the right people must have ready access to it to develop appropriate responses to specific contingencies. To this end, the planning, development, and maintenance of public health data must be managed effectively and efficiently. *Objective 5-4* focuses on implementing the necessary policies, controls, and technologies to protect CalPHIN data systems and networks while allowing for effective use of the data and information.

The CalPHIN Office will work with the individual CalPHIN-related information system project managers to evaluate, expand upon, and improve data security standards and policies in development efforts. This will encompass the establishment and publication of baseline security policies, standards, and technologies; the procurement and implementation of automated security tools; and the identification and resolution of gaps in the integrated technology security program.

Strategic Goal 5 Expected Outcomes

- Improved data security leading to better public health decision-making
- More consistent understanding of current and future requirements for data privacy and security
- Use of data that protects the confidentiality of private information
- Improved public trust and confidence in public health information practices

Strategic Goal 5 **Performance Measures**

- Number of stakeholders participating in the CalPHIN Security and Privacy Work Group
- Number of privacy and security policy-setting organizations with CalPHIN representatives
- Number of stakeholders adopting approved security policies and procedures for their information system development efforts

Project Success

> **Strategic Goal 6:** Deliver public health projects on time and within budget while successfully achieving objectives

Objectives

- Understand and communicate internal project approval and procurement processes
- Ensure that the selection, implementation, and operation of public health information systems support the overall CalPHIN vision
- Adopt best practices for project management, approval, and procurement

California's public health system is large and diverse with numerous business and technology needs. Some of these needs are unique and highly specialized, while others are shared by many or all of the State and local health programs. The intent of *Strategic Goal 6* is to ensure that the CalPHIN Office makes prudent technology investments and successfully implements the projects it undertakes.

The ambition of *Strategic Goal 6* is for CalPHIN initiatives to consistently result in **Project Success**—projects completed on time and on budget, with all features and functions originally specified. A variety of factors impact a project's success, and a number of studies have been conducted to determine what specific factors ensure project success. One such study's results are listed in Figure 8.[8]

Strategic Goal 6 includes the coordination of all technology project activities with the Department's Information Technology Services Division, Planning and Project Management

Collaborating on Project Success	
Confidence Level	**Success Factors**
Executive support	18
User involvement	16
Experienced project manager	14
Clear business objectives	12
Minimized scope	10
Standard software infrastructure	8
Firm basic requirements	6
Formal methodology	6
Reliable estimates	5
Other criteria	5

Figure 8. Project Success Factors

---

[8] Johnson, Jim; Boucher, Karen; Connors, Kyle; and Robinson, James. February/March 2001. *Collaboration: Development & Management: Collaborating on Project Success*. Softwaremag.com.

Branch (PPMB). Such coordination will ensure that the Department's project approval and procurement processes are well understood and that CalPHIN projects move more efficiently from proof of concept to project completion.

Under *Strategic Goal 6*, the CalPHIN Office will look to its Policy and Planning Work Group and Project Management Work Group to ensure that all projects support the overall CalPHIN vision and that they adhere to best practices for project management.

The following objectives describe steps to achieve this goal.

Objective 6-1	*Understand and communicate internal project approval and procurement processes*
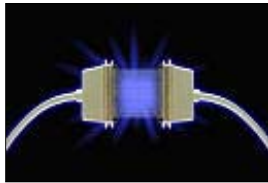
The effective delivery of IT projects requires cross-departmental planning for technology resourcing and funding. Under *Objective 6-1*, the CalPHIN Office will work cooperatively with the PPMB to ensure that the State's public health programs and offices have a clear understanding of the Department's internal technology project approval and procurement processes.

In addition, *Objective 6-1* aims to streamline the Department's ability to develop clear and effective external Feasibility Study Reports (FSR). The ability to complete effective FSRs is critical to the timely implementation of technology solutions. Under *Objective 6-1,* the CalPHIN Office will coordinate its efforts with the PPMB to ensure the development of effective FSRs that facilitate the rapid approval of technology project proposals.

Finally, this objective calls for the CalPHIN Office and PPMB to work together with State control agencies and clarify the agencies' expectations, educate and inform Department staff about the project approval process, and meet State control agency expectations. The CalPHIN office will provide technical support to staff developing approval documents and create a library of model FSRs, templates, guides, and other resources to support the development of effective public health system FSRs.

Objective 6-2	*Ensure that the selection, implementation, and operation of public health information systems support the overall CalPHIN vision*

Under *Objective 6-2*, the CalPHIN Office will adopt approaches and methodologies that encourage and facilitate the implementation of cross-program technology solutions that support the overall CalPHIN vision. Such solutions will be sufficiently flexible to meet shared business needs of multiple public health stakeholders.
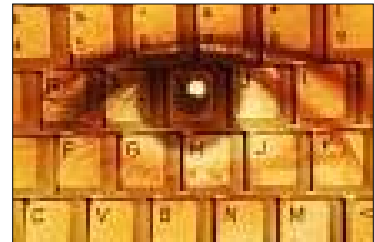
The CalPHIN Office will serve as a resource for the sharing of information about current and planned technology solutions that could be deployed more broadly. Further, the CalPHIN Office and the Policy and Planning Work Group will facilitate the integration and coordination of major technology projects and initiatives. In addition, the CalPHIN Office will:

- Maintain a descriptive inventory of technology initiatives, projects, and solutions as a resource for project managers across the State
- Develop a communication plan for educating and informing stakeholders about the scope, purpose, and status of CalPHIN cross-program technology projects
- Facilitate the design, development, and implementation of cross-program solutions that integrate with each other as fully as possible
- Ensure that all public health technology projects are undertaken with the broadest possible stakeholder involvement
- Ensure that all legitimate stakeholder requirements are identified and considered when systems are designed

Under *Objective 6-2*, the Project Management Work Group will provide a forum for knowledge management sharing and coordination of activities among information system project managers. The Project Management Work Group comprises public health IT project managers and CalPHIN leadership. This work group will meet regularly to analyze options for implementing systems that comply with Federal specifications and still address program requirements. In addition, the work group will promote the management of technology projects in accordance with industry-standard practices.

It is anticipated that the processes and methodologies developed as part of *Objective 6-2* will evolve as the Department moves ahead in developing streamlined business processes and PHIN-compliant data models described in *Strategic Goal 2.*

Objective 6-3	***Adopt best practices for project management, approval, and procurement activities***

Managing information technology projects so they meet cost, schedule, and performance goals is a complex and challenging job. Good project management is essential to the successful completion of projects and to the effective use of technology throughout the CalPHIN effort.

Under *Objective 6-3,* the CalPHIN Office will improve its management of IT projects through a variety of means, including:

- Adopting industry-standard technology project management methodologies, tools, and standards
- Providing guidance, advice, and quality assurance services through the CalPHIN Office and Project Management Work Group to major CalPHIN technology projects and initiatives. This will ensure that technology projects:
  - Align with the overall technology strategy
  - Comply with the technology standards and policies
  - Stay within scope and budget and on schedule
  - Face minimal risks to their ultimate success
- Representing the interests of the individual CalPHIN project managers to internal and external procurement bodies

The CalPHIN Office will charter the Project Management Work Group as part of its commitment to enhance communication between and among individual project managers. The Work Group will provide a forum for project managers to cooperatively discuss, plan, and implement

CalPHIN initiatives. This collaborative approach will connect developers, project managers, and infrastructure staff to ensure that CalPHIN projects are managed effectively and deployed quickly.

Project managers serve as the project focal point. Convening the Project Management Work Group, makes best use of the individual project manager's key characteristics: the ability to translate business and technical requirements between the people from these respective disciplines; the competency to decrease project scope, thereby reducing the time frame; the ability to organize all participants; the ingenuity to provide direction, motivation, and inspiration; and the ability to clearly convey project requirements and progress.

Strategic Goal 6 Expected Outcomes

- Improved awareness and understanding of the project approval process
- Faster and lower cost project procurements
- Improved communications between public health programs, ITSD, and PPMB
- Improved communication with State control agencies
- Increased awareness and knowledge of standard technologies
- Increased sharing of technology between systems and programs
- Reduced project risk
- Improved project documentation

Strategic Goal 6 Performance Measures

- Number of CalPHIN projects approved for implementation
- Number of projects using shared technical solutions

Relation of Strategic Goals to Stakeholder Input

The CalPHIN Strategic Plan goals and objectives were developed based on input from several sources. These included interviews with many public health stakeholders; key issues described in the Department's strategic plan; major DCDC activities; and the CDC's PHIN requirements. Figure 9, on the following page, illustrates how the six CalPHIN Strategic Goals align with these themes, issues, and activities. In the Figure, the CalPHIN goals are represented as being either critical to or supporting the identified themes, issues, and activities.

Figure 9. CalPHIN Strategic Goals Alignment with Stakeholder Interview Themes and Goals

Legend: ● = Critical to Efforts (dark blue), ○ = Supports the efforts (orange)

Strategic Goals 1	2	3	4	5	6	Stakeholder Interview Themes and Goals
Key Stakeholder Interview Themes						
○	●	●	●	○	●	Standardization
●		●			●	Funding
●		○			●	Central Leadership
○	●	●	●	○		Integrated Data Repository
	●		●	●	○	HIPAA, Security, and Confidentiality
●		●		○	●	Data Ownership
●		●	●			Collaboration/Coordination
●	○	●	●		○	Communication
●		●	●		○	Obtain Local Perspective
○	○	●	●	○	●	Public Health Infrastructure
○		○			●	Procurement Process
Key DHS Issues						
○		●	●		●	Optimize state and local public health capacity
		●				Improve coverage and access
○	○	○	●	○	●	Improve health status and outcomes
●	●	●			○	Foster integrated services delivery
		●				Develop and cultivate the DHS employee capability to fulfill the DHS mission
○	●		●	●	○	Improve business practices
Major DCDC Activities						
	●		●		○	Improve laboratory capacity and develop more accurate and efficient diagnostic methods for new bacterial, parasitic, viral and rickettsial diseases
●	●	○	●	○	●	Expand and enhance infectious disease surveillance, detection, and tracking
●	●	●	●	●	○	Improve the capacity and readiness at both state and local public health levels to assure disease crisis intervention to control outbreaks and prevent the spread of infectious diseases
●	●	●	●	●	●	Develop and improve systems, immunization registries and other links with private and public health care providers
○		●		○		Expand partnerships with health plans, sister agencies, and a agriculture-related businesses
●		●	○	○	○	Using population-based methods and channels, inform, educate, and communicate communicable disease prevention information to health care providers, policy makers, and communities at risk of infectious diseases
○	○	●	○	●	●	Thoughtfully and effectively address the disparity in health status and burdens of infectious diseases in California's ethnic, age, and gender groups
CDC PHIN Requirements						
○	●		●	●	○	An interoperable network – built on the internet and using industry standards
○		●	●	○	○	Support users – provides information and decision support to public health professionals
○	●	●	●		●	Live data – continuous monitoring of the nations health, continuous detection and evaluation of threats
	○	●	●		○	Dual use – meet bioterrorism preparedness and response needs and transform routine public health practice
●		●			●	Engage industry – set direction for private sector participation and develop commercial and clinical opportunities
○	●	○		●	○	Common data language – use of industry standards for data use and exchange

IT Strategic Goal Definitions: 1 – Leadership   3 – Collaboration   5 – Security/Confidentiality
2 – Standards   4 – Enabling Technology   6 – Project Success

● Critical to Efforts   ○ Supports the efforts

STRATEGIES

This section of the CalPHIN Strategic Plan describes and recommends a group of strategies needed to lay the framework for success. The strategies described in this section consist of both *initiatives* – defined as large, critical efforts that will play a primary role in meeting one or more of the strategic goals – and *enablers* – shorter term, high visibility, and high impact projects that can affect several programs and whose successful completion lays the groundwork for accomplishing a strategic goal.

The strategies are presented in tables on the following pages and are organized around the six goals. The purple asterisks (✳) identify the objectives supported by the specific strategy.

Strategic Goal 1: *Establish leadership to oversee and guide the development, evaluation, and implementation of CalPHIN policy and initiatives*

Objective 1: Create an organization with responsibility and accountability to coordinate efforts
Objective 2: Implement organizational and governance structures to provide effective, broad-based, and rapid decision-making
Objective 3: Promote a mindset of data stewardship
Objective 4: Manage cultural changes to implement a public health information network

Figure 10. Strategies for Accomplishing Strategic Goal 1 – Leadership

Strategy	Description	Objectives			
		1	2	3	4
Strategy 1.1	Present CalPHIN Strategic Plan and obtain DHS executive level approval ▪ Obtain commitment to and support of CalPHIN Strategic Goals, Objectives, and Strategies	✳	✳		
Strategy 1.2	Create CalPHIN Office ▪ Identify executive sponsor to champion the CalPHIN effort ▪ Designate senior health official to serve as Program Director o Develop job description, including roles and responsibilities ▪ Charter CalPHIN Office as a policy-setting organization	✳	✳	✳	✳
Strategy 1.3	Identify legislative champions and interest groups to garner support from statewide decision-makers ▪ Secure legislation creating and empowering the CalPHIN Office	✳	✳		
Strategy 1.4	Obtain commitment and support from stakeholders ▪ Identify internal and external stakeholders o Communicate the role of the CalPHIN Office ▪ Develop plan to provide ongoing communication to stakeholders		✳	✳	✳

Strategy 1.5	Identify and charter appropriate work groups
	▪ Officially establish, recognize, and oversee the following work groups:
	   o Policy and Planning (formerly the NEDSS Steering Committee)
	   o Standards
	   o Technology
	   o Security and Privacy
	   o Education and Outreach
	   o Project Management
	▪ Define composition of work groups to ensure adequate participation of a variety of stakeholders
	▪ Identify skills needed to serve on committees
	▪ Conduct a skills set assessment of key stakeholders
	▪ Create a plan to fill the identified gaps in skills
		✳	✳	✳	

Strategy 1.6	Develop appropriate conflict and problem resolution processes and controls in support of the organizational matrix or projects ▪ On an ongoing basis, devise strategies to manage risks and resolve obstacles		✳	✳	✳

Strategy	Description	Objectives			
		1	2	3	4
Strategy 1.7	Develop change management plan to work in the new CalPHIN model ▪ Promote and communicate desired future environment ▪ Promote data stewardship concept		✱	✱	✱
Strategy 1.8	Annually update strategic plan to provide ongoing and long-term direction		✱		
Strategy 1.9	Develop protocol to track progress and results of strategic initiatives and information system efforts		✱		✱

Strategic Goal 2: *Develop and implement standards and procedures to support the management of public health information*

Objective 1: Adopt a comprehensive methodology for setting data, technology and process standards
Objective 2: Adopt comprehensive public health data standards
Objective 3: Adopt technology standards that comply with relevant health care industry specifications
Objective 4: Develop and implement optimal process standards

Figure 11. Strategies for Accomplishing Strategic Goal 2 – Standards

Strategy	Description	Objectives			
		1	**2**	**3**	**4**
Strategy 2.1	Convene Standards Work Group (see Strategy 1.5) ▪ Identify experts and stakeholder representatives to participate on the work group to address infrastructure issues	✱	✱	✱	✱
Strategy 2.2	Develop a comprehensive model of the core business processes across the organization		✱		✱
Strategy 2.3	Develop comprehensive CalPHIN data model rules and specifications ▪ Identify and review State and Federal data models ▪ Adopt and/or develop precise definitions of each relevant data element and associated editing and cross-validation rules ▪ Map existing systems and data to the CalPHIN models		✱		✱
Strategy 2.4	Utilize Standards Work Group to identify procedures for evaluating, developing, approving, disseminating, and maintaining standards ▪ Define process for development of data standards ▪ Define approval, implementation, and monitoring procedures ▪ Define re-evaluation period for standards	✱	✱	✱	✱
Strategy 2.5	Establish an inventory of existing standards ▪ Review, publish, and disseminate existing state and federal standards		✱	✱	✱
Strategy 2.6	Convene stakeholders to develop consensus on priorities and responsibilities of CalPHIN standards development and implementation		✱	✱	✱
Strategy 2.7	Participate in standard-setting and regulatory efforts/organizations ▪ Collaborate with industry, Federal, State, and local standard-setting organizations ▪ Continually examine best practices of other agencies, governments, or private sector organizations for potential application to the CalPHIN initiative		✱	✱	✱
Strategy 2.8	Identify the inventory of standards to be used in CalPHIN initiatives ▪ Leverage existing research on standards ▪ Develop process to reach consensus on developing standards		✱	✱	✱
Strategy 2.9	Publish standards ▪ Adopt and/or develop and publish data standards ○ Define public health data and data linkage standards to facilitate data sharing between systems ▪ Adopt and/or develop and publish technology standards and specific vendor tools and technologies as standards ▪ Adopt and/or develop and publish public health process standards ▪ Promote broadest possible application and use of adopted standards, including ongoing compliance assessment		✱	✱	✱
Strategy 2.10	Negotiate enterprise wide license and volume purchase agreements for standard software, hardware, and services	✱		✱	

Strategic Goal 3: *Develop and manage public health systems collaboratively with partners and key stakeholders to improve public health data sharing and infrastructure development*

Objective 1: Leverage internal and external expertise and resources to meet shared needs
Objective 2: Optimize the use of funding streams to support public health information network efforts
Objective 3: Effectively communicate public health information network efforts
Objective 4: Promote opportunities for cross-program solutions

Figure 12. Strategies for Accomplishing Strategic Goal 3 – Collaboration

Strategy	Description	Objectives			
		1	2	3	4
Strategy 3.1	Foster and maintain ongoing collaboration and open communication with CalPHIN stakeholders ▪ Actively and continuously seek the input, assistance, and participation of stakeholders to collaborate on CalPHIN initiatives ▪ Identify and evaluate potential partnerships with local governments ▪ Identify and evaluate potential partnerships with public and private sector organizations and vendors	✱		✱	✱
Strategy 3.2	Convene Policy and Planning, and Technology Work Groups (see strategy 1.5)	✱		✱	✱
Strategy 3.3	Develop and maintain a statewide inventory of state and local applications, technologies, and resource skills to provide a baseline for system development and infrastructure improvement projects ▪ Create a matrix of existing and planned projects related to CalPHIN ▪ Identify resource skills and technologies ▪ Identify shared activities/systems in support of CalPHIN	✱		✱	✱
Strategy 3.4	Involve key stakeholders in the coordination of funding and other resources ▪ Identify high-level key stakeholders ▪ Review internal funding mechanisms ▪ Devise strategies to coordinate available funding and other resources ▪ Engage in joint planning efforts to encourage the ongoing exchange of information about integration efforts at the Federal, State, and local levels to minimize duplication and optimize funding and other resources ▪ Annually review the coordination of funding ▪ Develop a coordinated strategy to pursue external funding or additional funding sources ▪ Ensure funding and other resources are efficiently distributed according to established priorities on an ongoing basis		✱	✱	
Strategy 3.5	Develop formal agreements between programs and jurisdictions to facilitate data and resource sharing	✱			✱
Strategy 3.6	Convene the Education and Outreach Work Group (see Strategy 1.5)			✱	✱
Strategy 3.7	Utilize the Education and Outreach Work Group (see Strategy 1.5) to establish methods to promote CalPHIN activities ▪ Market CalPHIN activities via a website, email updates, white papers, educational courses, and group meetings ▪ Communicate the status of CalPHIN strategies, including individual project development efforts ▪ Develop electronic bulletin board to facilitate information exchange ▪ Develop education materials defining the scope of the individual information technology projects and initiatives			✱	✱

Strategy	Description	Objectives			
		1	2	3	4
Strategy 3.8	Collaborate with all applicable programs to manage public health data as a Department-wide resource, regardless of its physical location • Ensure resources are leveraged effectively and costs minimized during application design and development • Achieve economies by encouraging collaborative approaches and common solutions to technology issues	✻		✻	✻

Strategic Goal 4: *Implement reliable, effective, and efficient information technology solutions to support public health information infrastructure*

Objective 1: Implement technology solutions that are compatible with the CDC's Public Health Information Network initiative
Objective 2: Improve communication and information exchange between internal and external public health stakeholders
Objective 3: Promote a comprehensive perspective in the use of technology resources for public health information systems

Figure 13. Strategies for Accomplishing Strategic Goal 4 – Enabling Technology

Strategy	Description	Objectives 1	2	3
Strategy 4.1	Identify experts and stakeholder representatives to participate on the Technology Work Group (see Strategy 1.5) to address infrastructure issues ▪ On an ongoing basis, research, identify, and devise strategies to resolve technology infrastructure issues and establish standards, where appropriate ▪ Continue to research, analyze, and compile the findings and best practices of PHIN-related information systems in other states	✱		✱
Strategy 4.2	Utilize the Policy and Planning Work Group (see strategy 1.5) to identify future CalPHIN projects ▪ Prioritize development of technology projects ▪ Based on inventory results (see Strategy 3.2), develop high-level plan for implementation and coordination o Encourage statewide, shared technological applications over closed single-program applications ▪ Establish process to maintain shared systems and components	✱		✱
Strategy 4.3	On an ongoing basis, identify and implement quick wins ▪ Market quick win results		✱	✱
Strategy 4.4	Identify, promote, and leverage resources to enable information exchange and communication across networks, systems, and application development efforts			✱
Strategy 4.5	Establish a Technical Resource Center under the Technology Work Group (see strategy 1.5) to unify/educate stakeholders regarding CalPHIN technologies and solutions	✱	✱	
Strategy 4.6	Engage key stakeholders in the development of requirements prior to systems development		✱	✱
Strategy 4.7	Refine and confirm the overall CalPHIN data model rules and specifications (see strategy 2.3) and standards (see strategy 2.9) ▪ Confirm architecture is best model for CalPHIN implementation	✱	✱	✱
Strategy 4.8	Complete the installation of current PHIN-compatible projects using the data model (see Strategy 2.3) and standards (see Strategy 2.9) ▪ Implement PHIN-compatible pilots statewide ▪ Integrate pilot solutions ▪ Conduct periodic updates with stakeholders and information systems development efforts to leverage CalPHIN activities where possible	✱	✱	✱

Strategy	Description	Objectives		
		1	2	3
Strategy 4.9	Establish reporting capabilities for sharing public health information • Develop a shared reporting data model • Develop a shared reporting database • Identify and acquire reporting tools • Develop ad hoc reporting capabilities		✱	✱
Strategy 4.10	Implement a collaborative website as a central point to share information • Establish implementation plan • Develop and implement website	✱	✱	✱

Strategic Goal 5: *Provide a secure environment for public health information to protect the privacy of Californians*

Objective 1: Ensure compliance with appropriate laws, regulations, policies, and standards
Objective 2: Ensure coordination with HIPAA implementation efforts in California
Objective 3: Promote security and confidentiality principles as part of data stewardship
Objective 4: Provide secure access to the right people, at the right time, for the appropriate use

Figure 14. Strategies for Accomplishing Strategic Goal 5 – Security/Confidentiality

Strategy	Description	Objectives			
		1	2	3	4
Strategy 5.1	Convene the Security and Privacy Work Group (see Strategy 1.5) composed of experts and stakeholder representatives from diverse backgrounds	✳	✳	✳	✳
Strategy 5.2	Utilize Security and Privacy Work Group to identify procedures for evaluating, developing, approving, disseminating, and maintaining privacy and security policies and practices ▪ Define approval, implementation, and monitoring procedures ▪ Define re-evaluation period for policies and procedures	✳	✳		✳
Strategy 5.3	Identify and participate in privacy and security policy-setting efforts and organizations ▪ Collaborate with industry, Federal, State and local privacy and security policy-setting organizations ▪ Continually examine best practices of other agencies, governments, and states for potential application to the CalPHIN initiative 　○ Cultivate relationships with other states to share best practices and lessons learned	✳	✳	✳	✳
Strategy 5.4	Voluntarily adhere to the Department of Health and Human Services, "Standards for Privacy of Individually Identifiable Health Information"	✳			✳
Strategy 5.5	Obtain a legal assessment on any gaps and barriers among current privacy and security practices that impact the CalPHIN initiative ▪ Obtain legal opinion on the laws restricting the sharing of public health data	✳	✳		✳
Strategy 5.6	Define data security rules and user access privileges to ensure data integrity and security across systems ▪ Establish a statewide public key infrastructure to support secure electronic transactions			✳	✳
Strategy 5.7	Seek adoption of policies, mandates, regulations and organizational practices that promote data access, sharing, and protection of confidentiality ▪ Promote a sense of Department-wide data stewardship as opposed to data ownership	✳		✳	✳
Strategy 5.8	Promote privacy and security awareness throughout the CalPHIN effort	✳		✳	✳

Strategic Goal 6: *Deliver public health projects on time and within budget while successfully achieving objectives*

Objective 1: Understand and communicate internal project approval and procurement processes
Objective 2: Ensure that the selection, implementation, and operation of public health information systems support the overall CalPHIN vision
Objective 3: Adopt best practices for project management, approval, and procurement

Figure 15. Strategies for Accomplishing Strategic Goal 6 – Project Success

Strategy	Description	Objectives 1	2	3
Strategy 6.1	Complete Business Process Reengineering (BPR) assessment of public health systems		✳	✳
Strategy 6.2	Promote the use of Project Management Principles and Methodologies within CalPHIN ▪ Adopt industry-standard technology project management methodologies (i.e., PMI's PMBOK) for CalPHIN projects ▪ Utilize performance measurements and review processes to track the progress and success of IT projects	✳	✳	✳
Strategy 6.3	In the CalPHIN Office, develop project management plans to coordinate CalPHIN initiatives ▪ Present CalPHIN strategy to the Planning and Project Management Branch (PPMB) ▪ Develop and implement processes within CalPHIN to document and manage multiple CalPHIN activities	✳	✳	
Strategy 6.4	Convene the Project Management Work Group (see Strategy 1.5) composed of CalPHIN and other information technology project managers		✳	✳
Strategy 6.5	For the purpose of achieving CalPHIN initiatives, work with the PPMB to document internal project approval and procurement processes ▪ Review internal procurement processes ▪ Communicate internal procurement processes ▪ Encourage early communication between project management and control organizations and programs	✳	✳	

Strategy 6.6	Work cooperatively with the PPMB to improve the timeliness of the external technology project approval process
	▪ Facilitate the process of developing Feasibility Study Reports (FSR) that ensures rapid approval of proposed technology projects
	▪ Document and communicate external project approval processes
	▪ Work with State control agencies to clarify their expectations
	   ○ Communicate control agency reporting requirements for capital project IT procurements
	   ○ Share the CalPHIN vision and initiatives with the control agencies
	▪ Gather and make available a library of model FSRs, templates, guides, and other resources to support the development of successful project approval
	▪ Educate and inform Department staff about the Project Approval Process and meet State control agency expectations
	▪ Provide technical support to staff who are developing FSRs and other project approval documents
		✳	✳	

Strategy 6.7	Integrate the technology strategic planning process with the Department-wide strategic planning and funding initiatives ▪ Integrate IT planning with the development of business objectives to ensure alignment of IT and business goals		✳	

CRITICAL SUCCESS FACTORS

This Strategic Plan lays out the CalPHIN initiative's vision, strategic goals, and objectives, and identifies a series of specific strategies designed to move toward an integrated network of people, processes, and technology. As with any strategic plan, the goals and supporting strategies entail substantial change for an organization. In order to manage the changes and minimize the negative impact to the stakeholders, the following factors should be considered as essential to the success of CalPHIN.

- **Visible and consistent executive and management support.** One of the most significant risks to the success of any organizational change initiative is the absence of visible executive and management sponsorship and support. Lacking clear guidance and support from senior management, staff may question the importance or legitimacy of the CalPHIN initiative and may not embrace the changes. For these reasons, the Department must provide unqualified support for the CalPHIN efforts at the highest levels.

- **Development of a strong, central leadership team.** The CalPHIN initiative needs IT and program leadership across the Department to be aligned and focused on delivering the changes required to support the overall effort. As more emphasis is placed on sharing technical solutions and services across the Department, IT leadership will have to work closely together on the more strategic priorities. In addition, the CalPHIN Office must be actively, visibly, and consistently involved in initiative implementation activities, including participating in Department-wide and small group communication efforts, helping to make critical decisions, and celebrating successes

- **Program and Local Health Department participation and cooperation.** Perhaps one of the greatest risks to the entire project lies in the area of inter- and intra-program cooperation and participation from LHDs. For this effort to succeed, an extraordinary level of cooperation is required among all parties. Given the different interests and business focuses of the participants, in addition to their organizational separation, the CalPHIN Office must encourage and recognize the participation of stakeholders.

- **Coordination with other initiatives**. Coordinating and integrating the CalPHIN initiative with other state and local initiatives and projects will be critical to its successful implementation and to the management of changes. Implementation of CalPHIN activities should be made with full awareness and appreciation of the objectives, timeframes, and desired long-term outcomes of other efforts.

- **Stakeholder involvement.** Before embarking on any of the CalPHIN initiatives, the CalPHIN Office and supporting work groups should review the list of stakeholders, evaluate how the initiative will impact each of the stakeholder groups, and determine the appropriate level of involvement of each group in the initiative. Stakeholder involvement may range from serving as a full-time member of a project team to participating in focus groups, interviews or surveys, or receiving regular updates about the progress of the initiative. Involving key stakeholder groups in the planning, design, and implementation of CalPHIN initiatives will contribute greatly to quality decision-making and, ultimately, the broad acceptance of changes.

- **Continuous improvement activities.** Once implementation of the various CalPHIN initiatives begins, the CalPHIN Office should create a method for assessing progress and identifying opportunities for improvement. Such activities may include periodic (monthly or quarterly) reviews by IT management of performance measures as well as regular forums for soliciting stakeholder feedback on the changes to ensure they are achieving their intended benefits. The CalPHIN initiative should assign individuals or work groups to investigate and resolve problems or performance concerns identified during continuous improvement reviews.

- **Establish an environment that is conducive to change.** There will be a large number of changes introduced, so the Department should take steps to increase its capacity to successfully adapt to change. The culture must embrace and reward the positive attributes of change such as flexibility, adaptability, innovation, and resiliency.

- **Obtain necessary resources and funding.** Some of the strategic changes being introduced may span several years from concept to full rollout. The CalPHIN Office must take the steps necessary to arrange for adequate, uninterrupted flow of resources and funding needed to get the job done.

- **Drive the CalPHIN initiative with teamwork, collaboration, and communication.** IT groups across the Department need to be more tightly coupled, avoid re-inventing the wheel, and share ideas, solutions, and resources. At the same time, the operations and program groups need to work more closely across program areas and with IT so that projects and baseline services address their higher priorities and can be leveraged.

- **Focus on high priorities and follow through with delivery.** A variety of changes and projects required over the next several years will need to be phased in to the public health environment. Projects will be prioritized based on a combination of business need, integration dependencies (i.e., other projects may be required to precede it), and resource and funding constraints. Establishing and maintaining a solid integration plan that recognizes dependencies between current projects and the need to develop an integrated environment will be important. Once scheduled, higher priority projects should be developed and deployed as soon as practical.

- **Keeping technology in perspective.** Across the various DHS programs, there is a need to leverage information technology tools to expand business capabilities, and capitalize on current trends in business and technology. However, it must be understood that technology cannot drive the solution; rather, the solution will define the technology to be employed.

- **Eliminate data ownership mentality.** The concept of data ownership prevents enhanced data sharing and integration efforts. In order to advance the integration of information, shared responsibilities and good stewardship are essential at the personal and organizational levels.

- **Overcome the complexity and diversity in California's public health system.** Public health activities take place in a highly complex setting, including state level administration and local level management. This has the potential to raise barriers and the difficulty of designing effective integration initiatives. The diversity in California's public health system is reflected in the wide range of information technology investments and information systems already in place and planned

across LHDs and programs. The CalPHIN initiative must overcome these and make them strengths with the public health environment.

APPENDICES

The CalPHIN Strategic Plan includes the following appendices:

A. Governance and Strategic Plan Maintenance Guidelines

B. Communication and Marketing

C. Project Contributors

D. Glossary

E. Resource Information

A.   GOVERNANCE AND MAINTENANCE GUIDELINES

The CalPHIN Strategic Plan presents an ambitious set of strategies to improve California's public health system. While the CalPHIN Steering Committee believes that these strategies are the right ones to adopt, it is clear that – over time – political, economic, budgetary, demographic, and other types of changes are inevitable and may call for updates and revisions to the Strategic Plan. Further, the implementation of the Plan's strategies will require ongoing management and oversight to ensure that the Plan's goals are achieved in a timely and cost-effective way. Finally, some of the strategies in the Plan will likely present difficult challenges to the Department and may require tough decisions at various organizational levels. For these reasons, the Department should develop basic structures and protocols for maintaining the Strategic Plan and for governing its implementation. This appendix describes the roles and responsibilities within the Department for maintaining and governing the CalPHIN initiative and the Strategic Plan over time.

CalPHIN Governance Roles and Responsibilities

Having the right personnel involved is crucial for securing buy-in to the CalPHIN effort and developing a comprehensive vision. Representation of all relevant stakeholders on the governing body (e.g., CalPHIN Office and Work Groups) is essential to establishing credibility with other government officials, decision-makers, and funding agencies. Active participation from a variety of stakeholders will also assist in achieving commitment to, and ownership for, the initiative by all of the programs and groups involved.

The responsibilities of the CalPHIN governance structure continue beyond strategic planning. The governing body's role is dynamic. Indeed, the governing responsibilities may change significantly throughout the life of the CalPHIN effort and include planning for systems enhancements, pursuit of funding, system implementation oversight, or testing. While the primary focus may change with each phase of implementation and its structure, membership, may vary, the governance structure must remain throughout the life of CalPHIN.

The diagram that follows identifies the specific work groups and presents the organization of the CalPHIN governing body.
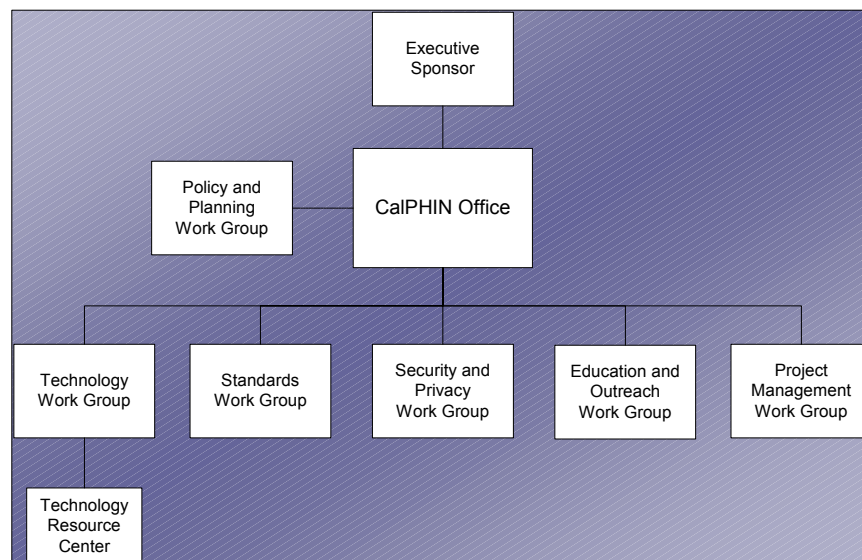
Defined Project Roles
The following roles are defined in this document. For each of the roles, the key responsibilities are defined as well.

- Executive Sponsor
- CalPHIN Office
- Work Groups
  - Policy and Planning Work Group
  - Technology Work Group
  - Standards Work Group
  - Security and Privacy Work Group
  - Education and Outreach Work Group
  - Project Management Work Group

Executive Sponsor

The Executive Sponsor champions the CalPHIN effort and represents the project to Department executives. The Executive Sponsor facilitates organizational support for the project and is responsible for carrying out strategic decisions.   Where needed, the Executive Sponsor will solicit input from the CalPHIN Office, the IT and Program management sponsors, and the local health departments to assist CalPHIN efforts with rapid decision-making, resource deployment, or other project needs.
Membership: DHS Executive

CalPHIN Office

The CalPHIN Office, a policy-setting organization, while promoting the vision of integrated information systems and enhancing data sharing, will provide leadership for implementing the CalPHIN vision. The Office will coordinate and oversee the CalPHIN work groups, act as an advocate for resources to support the development of CalPHIN initiatives, advise on priority resource needs, promote communication related to CalPHIN initiatives, stimulate and sponsor innovation, assure broad stakeholder involvement, and represent the CalPHIN effort to relevant organizations and agencies.
Membership: Senior DHS health official(s)

Policy and Planning Work Group (former NEDSS/CalPHIN Steering Committee)

The Policy and Planning Work Group provides strategic oversight of the CalPHIN initiative and makes the associated policy level decisions. The Policy and Planning Work Group will participate in recommending shared resource commitments necessary for project success, and support the initiative from its strategic position. The Work Group will also facilitate quick resolution of issues elevated for its consideration. Decisions by the Policy and Planning Work Group will be made by consensus with recognition of the variety of viewpoints.
Membership: Internal and external key public health stakeholders

Technology Work Group

The Technology Work Group will act as an advisory body to the Executive Sponsor, the CalPHIN Office, and the Policy and Planning Work Group. Their primary responsibility will be to give advice and feedback on technology solutions and options. This Work Group will also participate in the development of standards to support the CalPHIN effort.
Membership: Broad stakeholder participation, including public health programs, local health departments, information technology divisions and offices, and other internal and external stakeholders with technical expertise.

Standards Work Group

The Standards Work Group will act as an advisory body to the Executive Sponsor, the CalPHIN Office, and the Policy and Planning Work Group. Their primary responsibility will be to evaluate, develop, approve, disseminate, and maintain standards.

Membership: Broad stakeholder participation, including public health programs, local health departments, information technology divisions and offices, and other internal and external stakeholders with expertise or interest in establishing standards.

Security and Privacy Work Group

The Security and Privacy Work Group will act as an advisory body to the Executive Sponsor, the CalPHIN Office, and the Policy and Planning Work Group. Their primary responsibility will be to facilitate the adoption of privacy and security principles to be used in the development of appropriate policies.

Membership: Broad stakeholder participation, including public health programs, local health departments, information technology divisions and offices, and other internal and external stakeholders with expertise or interest security and/or privacy issues and policies.

Education and Outreach Work Group

The Education and Outreach Work Group will act as an advisory body to the Executive Sponsor, the CalPHIN Office, and the Policy and Planning Work Group. Their primary responsibility will be to educate and market the CalPHIN initiative and solutions to internal and external stakeholders.

Membership: Broad stakeholder participation, including public health programs, local health departments, information technology divisions and offices, and other internal and external stakeholders with an interest in promoting and communicating CalPHIN initiatives.

Project Management Work Group

The Project Management Work Group will act as a forum for CalPHIN initiative project managers to discuss projects, coordinate activities, and strategically plan activities.

Membership: CalPHIN IT development project managers

CalPHIN Governance and Strategic Plan Maintenance

Over time, the CalPHIN effort may experience a new challenge to "keeping the momentum." The problem may include keeping members involved. This may especially be true when members have dedicated time and effort to the initiative for a number of years or since its inception. But just as systems development and implementation follows a continuing and cyclical life (planning, design, implementation, testing and planning), so must that of the governance structure. The Executive Sponsor and CalPHIN Office must maintain the motivation of the members and continue to publicize the success and importance of the effort.

The Strategic Plan is a living document and, as such, maintains its viability and vibrancy through periodic review and revalidation. The basic tenets of the plan should not change, but the manner in which one arrives at the goals may improve with increased knowledge and coordination within the CalPHIN effort. New key strategies, initiatives, or enablers may be identified while old ones may be revamped or discarded. New technology spawns new ideas and approaches to problem solving. The CalPHIN Strategic Plan should be reviewed and updated at least annually, or at a reasonable place in the overall process that would provide the greatest benefit to the overall direction of the CalPHIN initiative.

B. COMMUNICATION, MARKETING AND EDUCATION

Communication, Marketing, and Education Guidelines

To serve as an effective road map for the use and management of technology in the Department, the CalPHIN Strategic Plan must be well understood and broadly accepted across California's public health system. Specific steps need to be taken to ensure that the Plan is communicated and marketed to all stakeholders. In addition, because the Plan has many aspects and will evolve and change over time, it is critical that interested parties have access to information that educates them about its content and implementation. This appendix describes basic guidelines for the CalPHIN initiative to follow to ensure that the Plan is effectively communicated and marketed and to make available educational resources to interested parties.

Communication

Upon acceptance, the CalPHIN Strategic Plan should be published broadly within the Department. In addition, the Plan should be made available to interested parties outside of the Department. The specific steps to communicate the Plan will include the following:

- Post the Plan in its entirety on the CalPHIN website. The posting on the website will include sufficient introductory material for readers who are not familiar with the Plan to understand its purpose and scope, and how it was developed.

- Send an e-mail message to Department employees advising them of the Plan's acceptance and publication on the website. The message should include a contact e-mail address to allow interested employees to comment on the Plan.

- Send a separate e-mail message to all Departmental managers summarizing in general how the plan may impact them and their areas of responsibility.

- Send an e-mail message to key external stakeholders informing them of the Plan's adoption within the Department. In addition, the message will invite them to comment on the Plan.

Because the Plan will evolve over time as initiatives are commenced, milestones achieved, and priorities reconsidered, the CalPHIN Office and Policy and Planning Work Group should periodically post Plan status updates to the CalPHIN website. As necessary, these updates will be augmented with e-mail messages to DHS staff and managers.

Marketing

Marketing of the CalPHIN Strategic Plan refers to special and ongoing efforts the CalPHIN Office will undertake to ensure the Department and its stakeholders remain committed to achieving the Plan's goals. Specific steps to market the Plan include:

- Publish "press releases" via e-mail and on the CalPHIN website about significant progress on Plan initiatives or about changes to the Plan. In particular, the CalPHIN Office will share success stories and report the results of Plan initiatives. This will ensure that the Plan remains alive in people's minds and those successes are acknowledged and celebrated.

- Provide frequent briefings and updates to executive management on progress and achievements under the Plan to ensure continued executive and senior management support for the Plan.

- Propose opportunities and accept invitations to speak about the Plan at group meetings. For example, program, LHD, and Department-wide manager meetings provide excellent opportunities to keep the Plan relevant and current in managers' minds.

- Respond constructively and promptly to all feedback and perspectives on the Plan. In responding, remain open to new and different ideas about how to accomplish the Plan's goals.

- Develop "Quick Win/Early Success" flyers to describe the products or services available as a result of the Early Success projects. These flyers are designed to promote awareness about the Early Successes that the CalPHIN effort has implemented.

- Consider the impact of implementing action items in the Strategic Plan on customers and stakeholders, and address their concerns about change. As with any significant change initiative, the Plan will elicit a range of reactions from those who may be impacted. The CalPHIN Office should take steps to anticipate these reactions, and develop strategies for mitigating perceived negative impacts of change. In addition, as part of an overall approach to change management, the CalPHIN Office should assist all parties in understanding the benefits of the Plan.

Education

The Plan is written at a strategic level and, thus, leaves many important tactical details and implications to be worked out as individual initiatives are undertaken. In addition, the Plan's objectives and strategies may evolve over time as progress is achieved and priorities and external circumstances change. To help interested parties maintain an accurate and up-to-date understanding of the Plan's objectives and strategies, as well as of the specifics of implementation initiatives, CalPHIN Office will take the following steps:

- Develop and publish brief (one to two page) Fact Sheets about the CalPHIN Strategic Plan as well as about individual initiatives and projects that emerge from the Plan. The CalPHIN Fact Sheets provide highlights of the CalPHIN effort answering such questions as:

  - What is CalPHIN?
  - Why is implementation necessary?
  - How will California benefit?

  These Fact Sheets should be written for a general audience, and include a minimum of technical detail. The Fact Sheets will identify additional sources of information about the Plan and its initiatives, such as the names and e-mail addresses of responsible individuals and web-links for accessing additional detailed information.

- Offer quarterly briefings to interested parties on the overall Plan and selected strategies and initiatives. Agendas for these briefings may include topics suggested by stakeholders as well as discussions of issues or initiatives that are relevant. To ensure that all interested parties can attend quarterly Plan briefings, the CalPHIN Office should consider scheduling them to coincide with other events and use the Department's teleconferencing capabilities.

- Publish "Who's Who in CalPHIN" flyer that lists stakeholders who are involved in the management and governance structure of CalPHIN (e.g., CalPHIN Office and Work Group participants). The purpose of the flyer is to illustrate the breadth of participation in the effort. The flyer should be updated periodically as membership changes.

C.　PROJECT CONTRIBUTORS

The DCDC sponsored the Strategic Planning project, and the CalPHIN Strategic Plan Steering Committee and Synergy Consulting, Inc. jointly developed the Plan.

The CalPHIN Strategic Plan Steering Committee provided business-oriented input and perspective to the project. In addition, this Committee participated in working sessions during which the vision, strategic goals, objectives, and strategies for the Plan were developed. The members of the Strategic Plan Steering Committee were as follows:

CalPHIN Strategic Plan Steering Committee	
Participant	**Organizational Unit**
Dr. Mark Starr	Division of Communicable Disease Control
Dr. Cecil Lynch	STD Control Branch
John Williamson	Information Technology Unit
Ed Eriksson	NEDSS Project Manager
Nancy McQuillen	NEDSS Data Architect
Gwendolyn Doebbert	Center for Health Statistics
Steve Moore	Information Technology Services Division

The CalPHIN (NEDSS) Steering Committee, from which the members of the Strategic Plan Steering Committee were selected, consists of participants from the following programs and offices:

- Bioterrorism Epidemiology Section
- California Cancer Registry
- Center for Health Statistics
- Childhood Lead Poisoning Prevention Branch
- Division of Communicable Disease Control
- Disease Investigations and Surveillance Branch
- Genetic Disease Branch
- Health Information and Strategic Planning Division
- Immunization Branch
- Information Technology Services Division
- Los Angeles County Department of Health Services
- Microbial Diseases Laboratory
- Office of AIDS
- Office of County Services
- Office of Statewide Health Planning and Development
- Prevention Services
- Refugee Health Section
- San Diego County Health and Human Services Agency
- Sexually Transmitted Disease Control Branch
- Solano County Health Department
- Tuberculosis Control Branch
- Yolo County Health Department

The Synergy project team, which designed the planning approach and facilitated development of the Plan, consisted of the following individuals:

Synergy Consulting, Inc.	
Team Member	**Role**
Mark Wilson	Project Leader
Michele Scoggins	Team Member
Tom Roberson	Technical Advisor

Synergy interviewed the following individuals to capture their input and perspectives regarding the linkage between the Department's business priorities and the use and management of information technology. The ideas, thoughts, and insights expressed during the interviews were essential to the formulation of the Plan's vision, goals, objectives, and strategies. The following individuals were interviewed during the course of the Strategic Plan project:

Interviewees	
Interviewee	**Organizational Unit**
M.D. Alamgir	California Department of Health Services Refugee Health Section 601 North 7th Street Sacramento, California 95814 malamgir@dhs.ca.gov
Larry Anderson	Client Services Program Manager & Privacy and Security Officer County of Placer Health and Human Services Managed Care Systems 379 Nevada Street Auburn, California 95603 lcanders@placer.ca.gov
Joseph Babineaux	California Department of Health Services Information Technology Services Division Information Security Office 744 P Street, Room 300 Sacramento, California 95814 JBabinea@dhs.ca.gov
Dr. Tom Bates	Epidemiologist California Department of Health Services Division of Communicable Disease Control Tuberculosis Control Branch 2151 Berkeley Way, Room 608 Berkeley, California 94704 tbates@dhs.ca.gov
Elizabeth Baylis	Public Health Microbiologist II California Department of Health Services Division of Communicable Disease Control Viral and Rickettsial Disease Laboratory 850 Marina Bay Parkway Richmond, California, 94804 ebaylis@dhs.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Stan Bissell	Chief California Department of Health Services Division of Communicable Disease Control Surveillance and Statistics Section 601 North 7th St., MS 486 Sacramento, California 94234
Mary Brenner	Director, Chief Information Officer Pennsylvania Department of Health Bureau of Information Technology mbenner@state.pa.us
Marchel Burgess	California Department of Health Services Office of HIPAA Compliance 8950 Cal Center Drive Sacramento, California 95826
Dr. Richard Burton	Associate Director California Department of Health Services 714 P Street Sacramento, California 94234 RBurton3@dhs.ca.gov
Terri Carlson	Public Health Manager County of San Bernardino Department of Public Health Program Analysis and Statistics 351 N Mt. View San Bernardino, California 92415 tcarlson@dph.sbcounty.gov
CCLHDM	California Conference for Local Health Data Management Annual Meeting
Helena Chung	Epidemiologist Solano County Health and Social Services hachung@solanocounty.com
Dave Cottam	Medical Records Supervisor California Department of Health Services Division of Communicable Disease Control Viral and Rickettsial Disease Laboratory 850 Marina Bay Parkway Richmond, California, 94804 dcottam@dhs.ca.gov
Randy Curtis	California Department of Health Services Genetic Disease Branch 850 Marina Bay Parkway Richmond, California, 94804 rcurtis@dhs.ca.gov
Kathleen Davidson-Allen	California Cancer Registry Public Health Institute Department of Health Services 1700 Tribute Road, #100 Sacramento, California 95815 KDavids1@dhs.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Dan Desmond	CEO The SIMI Group 1610 Arden Way, Suite 280 Sacramento, California 95815 Dan.desmond@simigroup.com
Frank DeBernardi	Chief California Department of Health Services Medical Care Services MIS/DSS Project 1530 12th Street Sacramento, California 95814 fdeberna@dhs.ca.gov
Patricio DiDonato	Director Los Angeles County Department of Health Services Morbidity/Communicable Disease Surveillance Unit 313 N. Figueroa Street, Room 117 Los Angeles, California 90012 pdidonato@dhs.co.la.ca.us
Gwendolyn Doebbert	Assistant Chief for Health Information Policy California Department of Health Services Center for Health Statistics 1800 3rd Street, Room 100 Sacramento, California 94234 gdoebber@dhs.ca.gov
Michael Donahue	Programmer California Department of Health Services Office of AIDS PO Box 942732 Sacramento, California 94234 mdonahue@dhs.ca.gov
Dr. Paul Duffey	Chief California Department of Health Services Microbial Diseases Laboratory Biologics & Immunoserology Section 2151 Berkeley Way, Room 330 Berkeley, California 94704 Pdufey@dhs.ca.gov
EpiForum Members	EpiForum Fall Meeting Particpants
Myrna Epstein	Epidemiologist Yolo County Health Department 10 Cottonwood Street Woodland, California 95695 myrna.epstein@yolocounty.org
James Esarte	Data Processing Manager California Department of Finance 915 L Street Sacramento, California 95814 fijesart@dof.ca.gov
Susan Fanelli	California Department of Health Services Office of HIPAA Compliance 8950 Cal Center Drive Sacramento, California 95826

Interviewees	
Interviewee	**Organizational Unit**
Ed Eriksson	NEDSS Project Manager California Department of Health Services Division of Communicable Disease Control Surveillance and Statistics Section 601 North 7th Street, MS 486 Sacramento, California 94234 eeriksso@dhs.ca.gov
Greg Franklin	Deputy Director California Department of Health Services Health Information & Strategic Planning 1800 3rd Street, Suite 100 Sacramento, California 95814 Gfrankli@dhs.ca.gov
Brandy George	Epidemiologist Shasta County Department of Public Health 2660 Breslauer Way Redding, California 96001 bgeorge@co.shasta.ca.us
Ayesha Gill	California Department of Health Services Division of Communicable Disease Control Immunization Branch 2151 Berkeley Way Berkeley, California 94704 AGill1@dhs.ca.gov
Carol Glaser	Acting Chief California Department of Health Services Division of Communicable Disease Control Viral and Rickettsial Disease Laboratory 850 Marina Bay Parkway Richmond, California, 94804 CGlaser@dhs.ca.gov
Todd Glasser	California Department of Health Services Division of Communicable Disease Control Immunization Branch 2151 Berkeley Way Berkeley, California 94704
Bob Hall	California Department of Health Services Health Information & Strategic Planning Office of County Health Services 1800 3rd Street, Suite 100 Sacramento, California 95814 bhall@dhs.ca.gov
Laura Hardcastle	Chief California Department of Health Services Refugee Health Section 601 North 7th Street Sacramento, California 95814 Lhardcas@dhs.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Frederick Harig	California Department of Health Services Childhood Lead Poisoning Prevention Branch 1515 Clay Street, Suite 1801 Oakland, California 94612 FHarig@dhs.ca.gov
Sakchai Himathongkham	California Department of Health Services Refugee Health Section 601 North 7th Street Sacramento, California 95814 shimatho@dhs.ca.gov
Dr. Sandra Huang	Medical Epidemiologist California Department of Health Services Division of Communicable Disease Control 2151 Berkeley Way, Room 708 Berkeley, California 94704 shuang@dhs.ca.gov
Jeffrey Johnson	Epidemiologist II County of San Diego Community Epidemiology Health and Human Services Agency 1700 pacific Highway San Diego, California 92186 Jeffrey.Johnson@sdcounty.ca.gov
Mike Kassis	Deputy Director, Chief Information Officer Office of Statewide Health Planning and Development Healthcare Information Division 818 K Street, Room 500 Sacramento, California 95814 mkassis@oshpd.state.ca.us
Brett Kelsey	California Department of Health Services Information Technology Services Division Information Security Office 744 P Street, Room 300 Sacramento, California 95814 BKelsey@dhs.ca.gov
Stan Ketchum	Independent Consultant sketchum@dhs.ca.gov
Dawn Kiefler	Administrative Analyst II County of San Diego Health and Human Services Agency Public Health Laboratory 3851 Rosecrans Street San Diego, California 92110 dawn.kiefler@sdcounty.ca.gov
Jerry Knedel	Chief California Department of Health Services Information Technology Services Division Infrastructure Support Branch 744 P Street, Room 1100 Sacramento, California 95814 Jknedel@dhs.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Aaron Lorenson	Information Specialist - Epidemiologist County of San Diego Community Epidemiology Health and Human Services Agency 1700 pacific Highway San Diego, California 92186 Aaron.Lorenson@sdcounty.ca.gov
Dr. Cecil Lynch	Medical Informaticist California Department of Health Services Division of Communicable Disease Control STD Control Branch 601 North 7th St., MS 486 Sacramento, California 94234 clynch@dhs.ca.gov
Chris McLean	Biostatistician County of San Diego Community Epidemiology Health and Human Services Agency 1700 pacific Highway San Diego, California 92186 Chris.Mclean@sdcounty.ca.gov
Nancy McQuillen	NEDSS Data Architect California Department of Health Services Division of Communicable Disease Control 601 North 7th St., MS 486 Sacramento, California 94234 nmcquill@dhs.ca.gov
Mark Miller	Director Placer County Department of Health and Human Services Communicable Disease Control Public Health Laboratory 11484 B Avenue Auburn, California 95603 mmiller@placer.ca.gov
Steve Moore	California Department of Health Services Information Technology Services Division 601 North 7th St., MS 486 Sacramento, California 94234 smoore@dhs.ca.gov
Tara Naisbitt	California Department of Health Services Office of HIPAA Compliance Administrative Operations Unit 8950 Cal Center Drive Sacramento, California 95826 tnasibit@dhs.ca.gov
Peggy Peterson	Customer Services Health and Human Services Data Center 1651 Alhambra Blvd Sacramento, California 95816 PPeters1@hhsdc.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Kimberly Poggmeyer	Senior Epidemiologist County of San Diego Community Epidemiology Health and Human Services Agency 1700 Pacific Highway San Diego, California 92186 Kimberly.poggemeyer@sdcounty.ca.gov
Larry Portigal	California Department of Health Services Health Information and Strategic Planning Center for Health Statistics 304 S Street Sacramento, California 95814 lportiga@dhs.ca.gov
Michael Quinn	Chief California Department of Health Services Health Information and Strategic Planning Office of Health Information & Research 304 S Street Sacramento, California 95814 Mquinn@dhs.ca.gov
Dr. Kevin Reilly	Deputy Director, California Department of Health Services Prevention Services 714 P Street, Room 1492 Sacramento, California 95814 Kreilly@dhs.ca.gov
Mike Rodrian	Chief California Department of Health Services Health Information and Strategic Planning Center for Health Statistics 304 S Street, Sacramento, California 95814 Mrodrian@dhs.ca.gov
Alfonso Rodriguez-Linz	Epidemiologist Office of Binational Border Health 3851 Rosecrans Street San Diego, California 92110
Dr. Michael Samuel	Chief California Department of Health Services STD Control Branch Surveillance and Epidemiology Section 1947 Center Street, Suite 201 Berkeley, California 94704 Msamuel@dhs.ca.gov
Jeff Sanchez	Chief California Department of Health Services Division of Environmental and Occupational Disease Control Health Information System Section 1515 Clay Street, Suite 1801 Oakland, California 94612 Jsanche3@dhs.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Scott Schmolke	California Department of Health Services Division of Communicable Disease Control Surveillance and Statistics Section 601 North 7th St., MS 486 Sacramento, California 94234
Jean Slosic	Biostatistician County of San Diego Community Epidemiology Health and Human Services Agency 1700 pacific Highway San Diego, California 92186 Jean.Slosic@sdcounty.ca.gov
Greg Smith	Chief Information Technology Services Division Information Management Architecture Section 714 P Street, Room 1476 Sacramento, California 95814 Gsmith1@dhs.ca.gov
Greg Smith	WEDSS Director Washington State Department of Health Epidemiology, Health Statistics, and Public Health Laboratories Washington Electronic Disease Surveillance System greg.smith@doh.wa.gov
David Souleles	Chief Deputy Director California Department of Health Services 714 P Street, Room 1253 Sacramento, California 95814 Dsoulele@dhs.ca.gov
Dr. Mark Starr	Acting Chief and NEDSS Program Director California Department of Health Services Division of Communicable Disease Control 601 North 7th St., MS 486 Sacramento, California 94234 mstarr1@dhs.ca.gov
Marc Strassburg	Chief County of Los Angeles Department of Health Services Information Systems Branch Web Informatics Division 313 N Figueroa Street Los Angeles, California 90012 mstrassburg@dhs.co.la.ca.us
Rachael Strider	Chief California Department of Health Services Information Technology Services Division Information Security Office 744 P Street, Room 300 Sacramento, California 95814 rstrider@dhs.ca.gov

Interviewees	
Interviewee	**Organizational Unit**
Leah Teitler	California Department of Health Services Childhood Lead Poisoning Prevention Branch 1515 Clay Street, Suite 1801 Oakland, California 94612 LTeitler@dhs.ca.gov
Mark Thyer	California Department of Health Services Information Technology Services Division Information Security Office 744 P Street, Room 300 Sacramento, California 95814 MThyer@dhs.ca.gov
Valerie Varzos, CPA	Technology Oversight and Security Unit California Department of Finance 915 L Street Sacramento, California 95814 valerie.varzos@dof.ca.gov
Roberta Ward	Privacy Officer California Department of Health Services 8950 Cal Center Drive Sacramento, California 95826 rward@dhs.ca.gov
Marilyn Wensrich	Chief California Department of Health Services IT Planning and Project Management Branch Information Technology Services Division 744 P Street, Room 1163 Sacramento, California 95814 mwensric@dhs.ca.gov
John Williamson	Chief California Department of Health Services Division of Communicable Disease Control Information Technology Unit 601 North 7th St., MS 486 Sacramento, California 94234 jwilliam@dhs.ca.gov
Craig Wolff	Project Manager California Department of Health Services Environmental Health Investigations Branch 1515 Clay Street, Suite 1700 Oakland, California 94612 CWolff@dhs.ca.gov
Gwen Wynter	Customer Services Health and Human Services Data Center 1651 Alhambra Blvd Sacramento, California 95816 Gwynter@Hhsdc.ca.gov
Alex Zakharenkov	Director of Advanced Technologies and Applications The SIMI Group 1610 Arden Way, Suite 280 Sacramento, California 95815 alexz@simigroup.com

D. GLOSSARY

AIDS	Acquired Immune Deficiency Syndrome
ANSI	American National Standards Institute
	ANSI creates standards for the computer industry
APHL	Association of Public Health Laboratories
ASTHO	Association of State and Territorial Health Officers
Authentication	Systematic way for establishing proof of identity between two or more entities, such as users and hosts
AVSS	Automated Vital Statistics System
BPR	Business Process Reengineering
BPRP	CDC's Bioterrorism Preparedness and Response Program
BT	Bioterrorism
Business issues and needs	What must be addressed to accomplish the business objectives, achieve the goals, and realize the vision
CalPHIN	California Public Health Information Network
CAPHLD	California Public Health Laboratory Directors
CCLHO	California Conference of Local Health Officers
CCLHDM	California Conference of Local Health Data Management
CCR	California Cancer Registry
CD	Communicable Disease
CDC	Centers for Disease Control and Prevention
CELDAR	California Electronic Laboratory Disease Alert and Reporting System
Champion	Person(s) responsible for supporting and leading a change initiative
CIPHER	Common Information for Public Health Electronic Reporting
	CIPHER is a set of standards and guidelines for data representation and code values which includes specifications for representing concepts as well as standard code lists for coded elements
CSTE	Council of State and Territorial Epidemiologists
DCDC	Division of Communicable Disease Control
DHS	California Department of Health Services
DISB	Disease Investigations and Surveillance Branch

DZ	Disease
ELR	Electronic Lab-based Reporting
	ELR is the electronic transmission of public health data from clinical laboratories to public health agencies
Encryption	Process of converting data from an easily understandable form to what appears to be random, useless gibberish, using mathematical processes that are difficult or impossible to duplicate without knowledge of how the encryption was accomplished
External Challenges	Current environment challenges faced by the California NEDSS effort
Firewall	Network device or collection of devices that protect inside "trusted" networks from external "untrusted" networks like the Internet, using a variety of technical processes
FSR	Feasibility Study Report
GIS	Geographic Information System
	Software used to relate data to geographic locations for mapping, analysis, and manipulation
HAN	Health Alert Network
HARS	HIV/AIDS Surveillance Reporting System
HEDIS	Health Plan Employer Data and Information Set
HHSA	Health and Human Services Agency
HIPAA	Health Insurance Portability and Accountability Act
HISP	Health Information and Strategic Planning Division
HIV	Human Immunodeficiency Virus
HL7	Health Level 7
	HL7 is a standards development organization formed in 1987 to produce a standard for hospital information systems
IDR	Integrated Data Repository
Infrastructure	Variety of mechanical, physical, and support technologies that enable and facilitate information and data exchange, as well as communication among and between people and organizations
Integration	Ability to share critical information electronically at key decision points throughout the public health system.
Interoperability	Capability to communicate, execute programs, transfer data among various units in a way that requires systems users to have less human intervention in the initiation of intra-system actions

ITSD	Information Technology Services Division
ITSD, ISO	Information Technology Services Division, Information Security Office
IZ	Immunization
LHD	Local Health Department
LHJ	Local Health Jurisdiction
LIS	Laboratory Information System
LOINC	Logical Observations, Identifiers, Names and Codes
	A set of names and ID codes for identifying laboratory and clinical observations.
MD	Medical Doctor
MDL	Microbial Diseases Laboratory
NACCHO	National Association of County and City Health Officials
NAHDO	National Association of Health Data Organizations
NAPHSIS	National Association of Public Health Statistics and Information Systems
NEDSS	National Electronic Disease Surveillance System
NETSS	National Electronic Telecommunications System for Surveillance
Objective	Specific measurable targets for accomplishment that contribute to achieving the vision and goals, address strategic issues, and collectively, realize the vision for technology
OHC	Office of HIPAA Compliance
OHI	Office of HIPAA Implementation
OOA	Office of HIV/AIDS
OSHPD	Office of Statewide Health Planning and Development
Outcome	Reflects the actual results achieved, as well as the impact of benefits for stakeholders during or after their involvement with a program. Outcomes may relate to knowledge, skills, attitudes, value, behavior, condition, or status
PAM	Program Area Module
Performance Measure	Provide a measure of discipline in evaluating the relevance and contribution of individual strategies and projects to overall strategic goals, and ensures accountability by creating objective measures of success
PHCDM	Public Health Conceptual Data Model
	A high-level conceptual data model, developed as part of

	the CDC NEDSS initiative
PHIN	Public Health Information Network
PHL	Public Health Lab
PMBOK	Project Management Body of Knowledge
PPMB	Planning and Project Management Branch
Privacy	Individuals' interests in preventing the inappropriate collection, use, and release of personally identifiable information in the public health system
Privacy Policy	A plan, procedure, or course of action designed to influence and determine decisions and actions regarding the collection, use, and disclosure of personal information
Public Health System	A network of people, information systems, organizations, and public health processes focused on the health of the population
Public Health Information	Any and every type of information that is collected, transmitted, or maintained by the public health system
SARS	Severe Acute Respiratory Syndrome
SNOMED	Systemized Nomenclature of Medicine
	A nomenclature classification for indexing medical vocabulary, including signs, symptoms, diagnoses, and procedures
Stakeholder	Individual, group, or organization having a vested interest in the organization and expecting certain levels of performance from it
Standards	Common and repeated use, rules, guidelines, or characteristics for products, processes, or services
STD	Sexually Transmitted Disease
Strategic Goal	Desired end results, generally 3-5 years
Strategic Plan	Plan of action aimed at achieving a desired future condition
Strategies	Actionable plans for achieving the goals and objectives
TB	Tuberculosis
TIMS	Tuberculosis Information Management System
Vision	Brief description of the ideal future condition

E. RESOURCE INFORMATION

California Department of Health Services, NEDSS Steering Committee. August 9, 2002. *NEDSS Candidate Projects.*

California Department of Health Services. March 2002. *Leadership for a Healthy California: A Strategic Plan for the California Department of Health Services.*

Claire Broome, MD. April 2002. *Facilitating electronic sharing of Emergency Department data needed for public health: the National Electronic Disease Surveillance System*. Presentation to the National Association of Health Data Organizations Emergency Department Data Conference.

Canada Federal/Provincial/Territorial Surveillance Integration Design Team. September 1998. *A Discussion Paper on an Integrated National Surveillance Network for Canada.*

Canada Federal/Provincial/Territorial Working Groups: National Health Surveillance Network Working Group; Integration Design Team. May 25, 1999. *Proposal to Develop a Network for Health Surveillance in Canada.*

Canadian Institute for Health Information. March 2000. *Roadmap Initiative: Launching the Process.*

The CDC/ATSDR Steering Committee on Public Health Information and Surveillance System Development. Spring 1995. *Integrating Public Health Information and Surveillance Systems.*

Centers for Disease Control and Prevention, Health Information and Surveillance Systems Board. Spring 1995. *Integrating Public Health Information and Surveillance Systems.*

Centers for Disease Control and Prevention. 1999. *Public Health's Infrastructure: A Status Report.*

Centers for Disease Control and Prevention. April 21, 2000. *Biological and Chemical Terrorism: Strategic Plan for Preparedness and Response Recommendations of the CDC Strategic Planning Workgroup.* MMWR Vol. 49 / No. RR-4

Centers for Disease Control and Prevention. April 15, 2001. *NEDSS Systems Architecture.*

Centers for Disease Control and Prevention. 2002. *NEDSS Timeline.*

 Centers for Disease Control and Prevention. February 14, 2002. *Public Health Information Technology Functions and Specifications (for Emergency Preparedness and Bioterrorism).*

Centers for Disease Control and Prevention. March 9, 2002. *NEDSS and NEDSS PAMs Business Discovery Statement v 1.2.*

Centers for Disease Control and Prevention. November 1, 2002. *Public Health Information Network (Bioterrorism) Technical Assistance*. Teleconference.

Committee on Quality of Health Care in America, Institute of Medicine. 2001. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press.

Council of State and Territorial Epidemiologists. April 2001. *A Guide to the Implementation of the National Electronic Disease Surveillance System in State Public Health Agencies.*

D.A. Henderson. 1998. *Bioterrorism as a Public Health Threat*. Emerging Infectious Diseases Volume 4 Number 3

Department of Health and Human Services. July 29, 2002. *Strategic Plan FY 2003 – 2008.*

Division of Communicable Disease Control. 1998-1999. *Communicable Disease Control in California.*

J. Klein. February 8, 2002. *NEDSS: Application Integration Anti-bioterrorism 'City Plan'*. Gartner, Inc.

Johnson, Jim; Boucher, Karen; Connors, Kyle; and Robinson, James. February/March 2001. *Collaboration: Development & Management: Collaborating on Project Success*. Softwaremag.com.

Lawrence Gostin, JD, LLD; Zita Lazzarini, JD, MPH, Verla Neslund, JD; Michael Osterholm, PhD, MPH. 1996. *The Public Health Information Infrastructure: A National Review of the Law on Health Information Privacy*. JAMA vol.275, pp 1921-1927

Loonsk, J.W. and Rigden, M. April 2001. *The Base System: Implementation of the National Electronic Disease Surveillance System Standards and An Option for Use.* 2nd National NEDSS Stakeholders' Meeting

Massachusetts Health Data Consortium, Inc. 2000. *Regional Solutions for Collaboration: A New Paradigm for Health Information Delivery.*

Massachusetts Health Data Consortium, Inc. March 28, 1996. *Confidentiality of Health Data - An Exploration of Principles, Policies and Practices*. Public Meeting. Boston, MA.

National Center for Health Statistics. *Balancing Individual Privacy and Communal Uses of Health Information*. Washington, DC.

National Committee on Vital and Health Statistics Workgroup on the National Health Information Infrastructure. June 2000. *Toward a National Health Information Infrastructure: Interim Report.*

National Committee on Vital and Health Statistics. January 11,2001. Joint Hearings of the Workgroups on the National Health Information Infrastructure and Health Statistics for the 21st Century. *Proceedings*. Washington, DC.

National Committee on Vital and Health Statistics. July 10,2000. Joint Hearings of the Workgroups on the National Health Information Infrastructure and Health Statistics for the 21st Century. *Proceedings*. Chicago, Illinois.

National Committee on Vital and Health Statistics. November 15, 2001. *Information for Health: A Strategy for Building the National Health Information Infrastructure.* Washington, DC

Office of Civil Rights, U.S. Department of Health and Human Services. 2001. *National Standards to Protect the Privacy of Personal Health Information.*

Office of Health and the Information Highway, Health Canada. *Canadian Health Infostructure.*

Subcommittee on Technology and Procurement Policy Oversight Hearing. December 14, 2001. *Battling Bioterrorism: Why timely information sharing between local, state, and federal governments is the key to protecting public health.* Briefing memorandum.

U.S. Department of Health and Human Services. March 21,2003. *Federal Government Announces First Federal eGov Health Information Exchange Standards.*

U.S. Department of Health and Human Services. November 2000. *Healthy People 2010.*

Second edition. Washington, DC: U.S. Government Printing Office

United States House of Representatives, Government Reform Committee, Subcommittee on Technology and Procurement Policy. December 14, 2001. *Testimony of the Association of Public Health Laboratories.*